

ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS

OWNER
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CONTRACTOR
FIELD
OTHER

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LEA - Architects, LLC
Architecture Planning Interiors Construction Management
1730 East Northern Avenue, Suite 110 Phoenix, Arizona 85020
Phone: 602.943.7511 Fax: 602.943.7784
email: info@lea-architects.com www.lea-architects.com



PROJECT: City of Mesa Public Safety Training Facility
(name, address) Burn Facility Expansion
3260 N. 40th Street
Mesa, AZ

OWNER: City of Mesa
20 East Main Street
Mesa, AZ 86336

TO: (Contractor) JE Bowen Construction LLC
517 S. Blossom
Mesa, AZ 85206

ARCHITECT'S SUPPLEMENTAL
INSTRUCTION NO: 1

DATE: March 7, 2016

MESA PROJECT NO: CP0096
ARCHITECT'S PROJECT NO: 140714

NTP DATED: Feb. 1, 2016

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change in the Contract Sum or Contract Time.

Description: (Here insert a written description of the interpretation or change)

CITY OF MESA PUBLIC SAFETY TRAINING FACILITY BURN FACILITY EXPANSION

Sheet A0.0 – Cover Sheet	Sheet A7.3 – Garage Vents / Open Wall Joints
Sheet A3.0 – First Floor Plan	Sheet AA2.0 – Alternate Bid (Info Transferred to A3.0 and A3.1)
Sheet A3.1 – Second Floor Plan	Sheet S1 – Structural Notes and Details
Sheet A5.1 – Building Sections / Thermal Lining Details	Sheet S3 – Second Floor Framing Plan
Sheet A6.0 – Door Schedule / Door Details	Sheet S4 – High & Low Roof Framing Plan
Sheet A6.1 – Door Details	Sheet S5 – Details
Sheet A6.2 – Door Details	Sheet S6 – Second Floor Details
Sheet A6.3 – Door Details	Sheet S8 – Stair Details
Sheet A7.1 – Roof / Chopout Details	

Revise as follows:

Sheet A0.0 – Cover Sheet

- Cover Sheet revised to reflect ASI#1 and date

Sheet A3.0 – First Floor Plan / Sheet A3.1 – Second Floor Plan

- Masonry Control Joint Locations (MCJ) as per GSN and Detail 2/A7.3 have been identified as per Revised Sheets A3.0 and A3.1
Note: Exact Locations within wall length may be adjusted based on masonry jointing/coursing within 8" of proposed locations.
- Door 201B has been relabeled 'Door Type A' on Sheet A3.1 as per attached revised Sheet A3.1
- Added General Floor Plan Note H. in reference to cutting of masonry units (8x8x16 / 8x8) in the middle of the wall – "Not at Top or Ends" as per Revised Sheets A3.0 and A3.1

Sheet AA2.0 – First Floor Plan / Second Floor Plan Alt. Bid

- Floor Plan Layouts/ Room Finish Schedule have been transferred to Sheets A3.0 and A3.1 since these Alternate Bids were accepted.

Sheet A5.1 – Building Sections / Thermal Lining Details

- Det. 1 - Thermal Linings at Ceiling "Section with Thermal Lining Tile on Exterior" – Clarification that SS angle is not required were exterior Thermal Lining panels occur on the exterior as per Revised Sheets A5.1

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Sheet A6.0 – Door Schedule / Door Details / Sheet A6.1 – Door Details / Sheet A6.2 - Door Details / Sheet A6.3 - Door Details

- Det. 7 – Steel Door/Window Head – Shows increased HTL lintel width to provide anchor point for Thermal Lining Tile (HTL) as per revised Sheet A6.0
Note: Increased HTL lintel width is to provide anchor point for Thermal Lining Tile (HTL) and is not due to structural loading.
- Door Types A, B, C and Window Shutters and associated steel hardware, supports, etc. to be “Prime Painted Steel (Gray)” and **NOT** Hot-Dipped Galvanized due to the potential reaction with high heat as per attached revised Sheet(s) A6.0, A6.1, A6.2 and A6.3
Note: All other steel including, but not limited to stairs, Railings, scuppers, etc. shall remain Hot-Dipped Galvanized.

Sheet A7.1 – Roof / Chopout Details

- Det. 2 – Eave Detail @ Roof / Safety Railing System – Clarification showing in creased masonry top course (10”) masonry top course to match Structural Det. 7/S7 as per revised Sheet A7.1

Sheet A7.3 – Garage Vents / Open Wall Joints

- Det. 2 – Plan Details-Open Wall Joints – Joint at Second Floor Columns modified to allow for expansion of masonry as per attached revised Sheet A7.3

Sheet S1 – Structural Notes and Details

- Masonry Note 18 – Revised Lintel Detail as per attached revised Sheet S1

Sheet S3 – Second Floor Framing Plan

- Line of Fire Brick shown at Stair as per attached revised Sheet S3
- Correct Det. 14/S6 keyed in as per attached revised Sheet S3
- Second Floor Framing Note 5 revised as per attached revised Sheet S3
- Note No. 6 removed as per attached revised Sheet S3

Sheet S4 – High & Low Roof Framing Plan

- Roof Framing Note 5 revised as per attached revised Sheet S4

Sheet S5 – Details

- Det. 14 /S5 – Masonry & Concrete Lintels at Masonry Wall Openings – Deleted as per attached revised Sheet S5

Sheet S6 – Second Floor Details

- Det. 12 /S6 - Balcony Slab Bearing at Concrete Wall - Deleted CIP floor extension as per attached revised Sheet S6

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Sheet S8 – Second Floor Details

- Added Det. 7 /S8 – Typical Precast Concrete Lintels at Masonry Wall Openings - Revised deleting masonry lintel (steel Reinforcement) above the concrete lintel and clarifying that the precast lintel is "Refractory Concrete (HTL) to match Architectural Det. 7/A6.0 as per attached revised Sheet S8

Attachments: (Here insert listing of attached documents that support description)

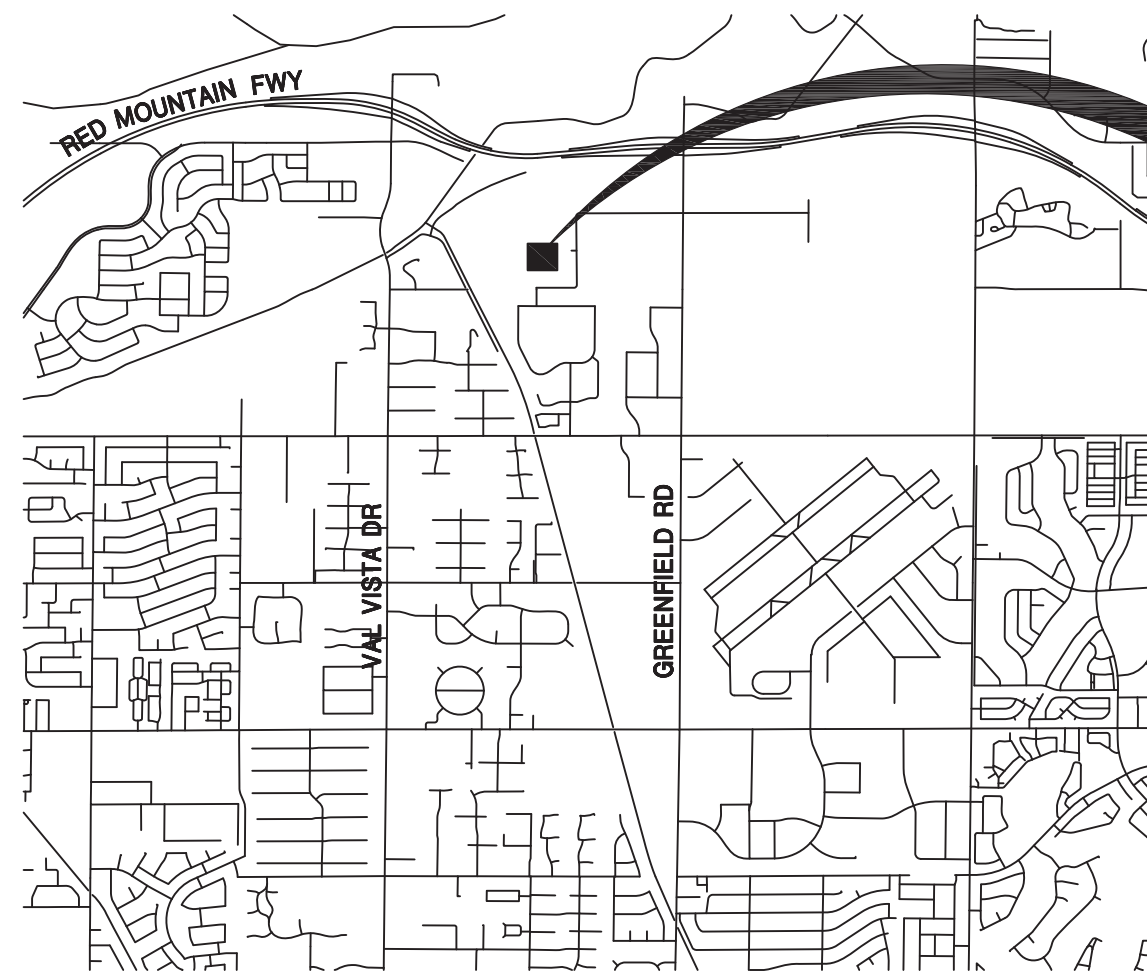
Revised Sheet A0.0 – Cover Sheet
Revised Sheet A3.0 – First Floor Plan
Revised Sheet A3.1 – Second Floor Plan
Revised Sheet A5.1 – Building Sections / Thermal Lining
Details
Revised Sheet A6.0 – Door Schedule/Door Details
Revised Sheet A6.1 – Door Details
Revised Sheet A6.2 – Door Details
Revised Sheet A6.3 – Door Details
Revised Sheet A7.1 – Roof/Chopout Details
Revised Sheet A7.3 – Open Wall Joints

Revised Sheet S1 – Structural Notes & Details
Revised Sheet S3 – Second Floor Framing Plan
Revised Sheet S4 – High & Low Framing Plan
Revised Sheet S5 – Foundation Details
Revised Sheet S6 – Second Floor Details
Revised Sheet S8 – Details

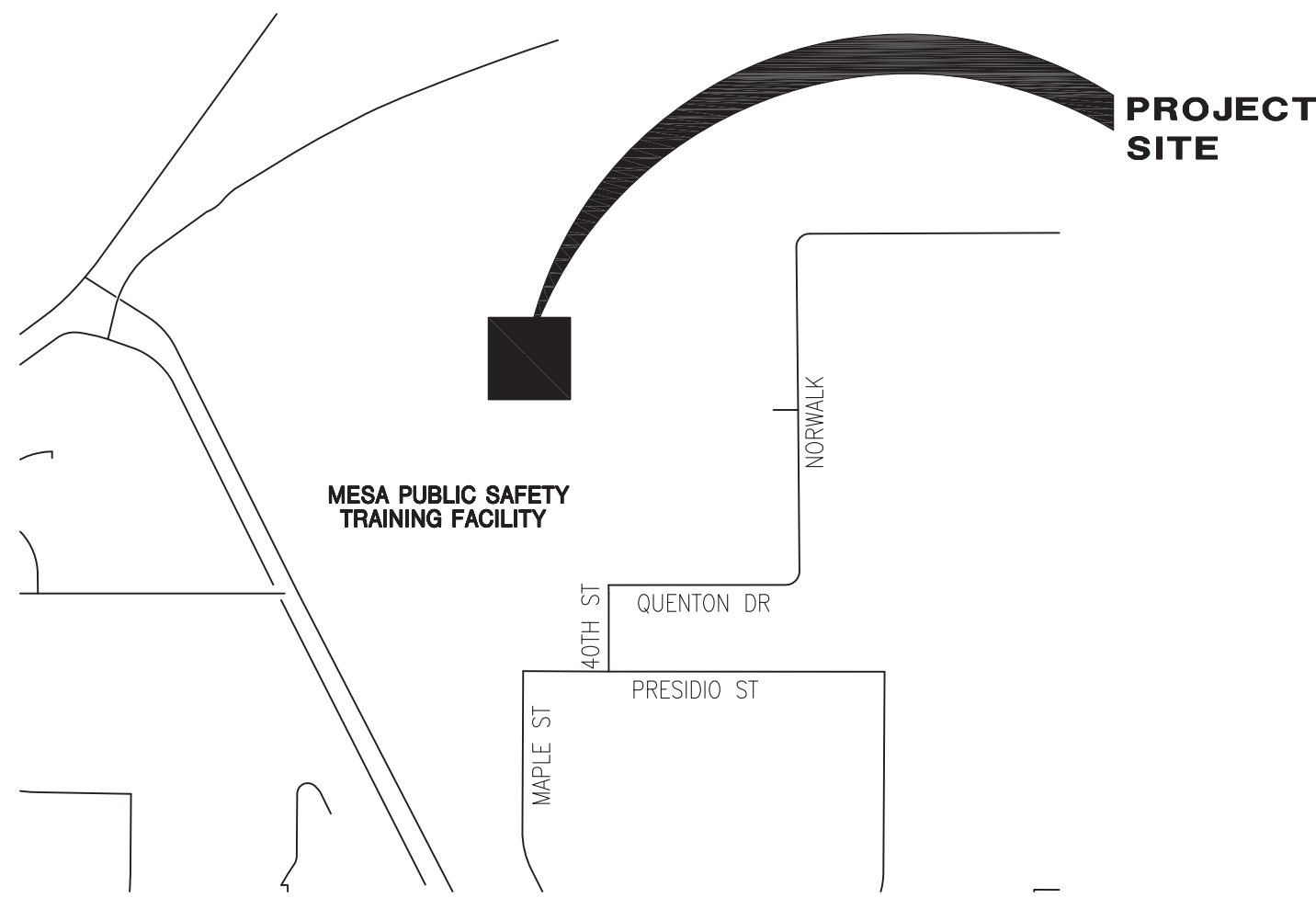
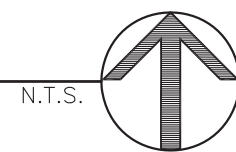
ISSUED BY THE ARCHITECT:

RJJ
(signature)

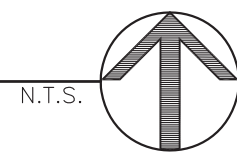
Randy Jones RA, Senior Project Manager
(Printed name and title)



VICINITY MAP



LOCATION MAP



LIVE FIRE TRAINING DESIGN CRITERIA

THE FIRE TRAINING PROP HAS BEEN DESIGNED FOR THE FOLLOWING CRITERIA:

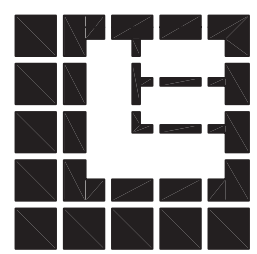
1. MAXIMUM NUMBER OF LIVE FIRE TRAINING DAYS PER YEAR = UNLIMITED
2. MAXIMUM NUMBER OF LIVE FIRE TRAINING EVOLUTIONS PER DAY = 15
3. MAXIMUM DURATION OF EACH LIVE FIRE TRAINING EVOLUTION = 20 MINUTES
4. MAXIMUM SUSTAINED TEMPERATURE DURING LIVE FIRE TRAINING IN BURN ROOMS = 1200 °F
5. MAXIMUM TEMPERATURE SPIKE DURING LIVE FIRE TRAINING IN BURN ROOMS = 1800 °F
6. ONLY "CLASS A" FUEL MATERIALS SHALL BE USED FOR LIVE FIRE TRAINING
7. LIVE FIRE TRAINING SHALL OCCUR IN BURN ROOMS ONLY. NO FIRES ARE ALLOWED ON THE INTERIOR AND EXTERIOR STAIRS AND LANDINGS ON THE DECK OR ON THE ROOFS.
8. LIVE FIRE TRAINING SHALL BE IN ACCORDANCE WITH NFPA 1403
9. TRAINING THAT INCLUDES EXPLOSIVES, FIREARMS, OR TEAR GAS SHALL NOT BE PERMITTED WITHIN OR NEAR THE FIRE TRAINING PROP
10. ONCE ALL CONCRETE AND MASONRY HAS BEEN COMPLETED, THE PROP SHALL STAND FOR A 2 MONTH MINIMUM CURING PERIOD BEFORE CONDUCTING THE FIRST FIRE LIVE TRAINING EVOLUTION. INSTALLATION OF OTHER TRADES MAY OCCUR DURING THE 2 MONTH CONCRETE AND MASONRY CURING PERIOD.
11. THE STRUCTURAL ELEMENTS HAVE BEEN PROTECTED FROM HEAT AND THERMAL SHOCK WITH THE THERMAL LININGS, NON-BEARING MASONRY WALLS AND OTHER NON-STRUCTURAL ITEMS ARE NOT PROTECTED WITH THERMAL LININGS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS, AND ARE EXPECTED TO GRADUALLY DETERIORATE WITH EVERY EVOLUTION. MAINTENANCE WILL BE REQUIRED AND SHOULD BE INCLUDED IN ANNUAL BUDGETS.
12. FIRE SHOULD BE PLACED AWAY FROM DOORS, SHUTTERS, AND ROOF OPENINGS TO REDUCE DETERIORATION OF THOSE ITEMS

CITY OF MESA DEFERRED SUBMITTALS

1. FIRE PROTECTION CLASS 1 WET STANDPIPE

NOTE:

1. PER IBC SECTION 107.3.4.1, THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL BE RESPONSIBLE FOR REVIEWING AND COORDINATING SUBMITTAL DOCUMENTS PREPARED BY OTHERS, INCLUDING PHASED AND DEFERRED SUBMITTAL ITEMS, FOR COMPATIBILITY WITH THE DESIGN OF THE BUILDING.



LEA-ARCHITECTS, LLC
ARCHITECTURE PLANNING





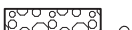



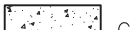









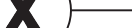


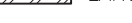




INTERIORS

PHOENIX, AZ

CONSTRUCTION MANAGEMENT

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A183382	3)	A1.1 SITE PLAN	
A183383	4)	A2.0 SITE DETAILS	
A183384	5)	A3.0 FIRST FLOOR PLAN	ASI #01 2-24-16
A183385	6)	A3.1 SECOND FLOOR PLAN	ASI #01 2-24-16
A183386	7)	A3.2 ROOF/ FLOOR PLAN	
A183387	8)	A4.0 ELEVATIONS	
A183388	9)	A4.1 ELEVATIONS	
A183389	10)	A5.0 SECTIONS	
A183390	11)	A5.1 SECTIONS/ THERMAL LINING DETAILS	ASI #01 2-24-16
A183391	12)	A6.0 DOOR DETAILS/ SCHEDULE	ASI #01 2-24-16
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A183414	35)	E3.0 ELECTRICAL FLOOR PLANS	
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A183418	39)	C4.1 FIRELINE SHEET	

△ ASI #01 2-24-16

MATERIAL LEGEND		SYMBOLS		PROJECT DATA & ZONING INFORMATION		DESIGN TEAM	
 EARTH	 FINISH LUMBER	 SECTION LETTER XX SHEET NUMBER	 PROPERTY LINE	APPLICABLE BUILDING CODES (WITH CITY OF MESA AMENDMENTS) 2006 INTERNATIONAL BUILDING CODE 2006 INTERNATIONAL MECHANICAL CODE 2006 INTERNATIONAL PLUMBING CODE 2006 INTERNATIONAL FUEL GAS CODE 2006 INTERNATIONAL FIRE CODE 2005 NATIONAL ELECTRIC CODE ICC/ANSI A117.1 & 2010 ADA STANDARDS	PROJECT NAME MESA PUBLIC SAFETY TRAINING FACILITY BURN FACILITY EXPANSION	ARCHITECT LEA - ARCHITECTS, LLC 1730 E. NORTHERN AVE., SUITE 110 PHOENIX, AZ 85020	ARCHITECTURAL LEA - ARCHITECTS, LLC (602) 943-7511
 CRUSHED ROCK	 DIMENSION LUMBER	 SECTION NUMBER XX SHEET NUMBER	 EXISTING GRADE ELEV.	BUILDING OCCUPANCY OCCUPANCY TYPE "U"	PROJECT ADDRESS 3260 N. 40TH STREET MESA, AZ	PRINCIPAL: LAWRENCE ENYART, FAIA, LEAD AP SR. PROJECT MANAGER: RANDY JONES, RA (602) 943-7511	CIVIL HUBBARD ENGINEERING, INC. (480) 892-3313
 C.I.P. CONCRETE	 GYPSUM BOARD	 PARTIAL SECTION	 NEW GRADE ELEV.	BUILDING AREAS THIS STRUCTURE IS A FIRE TRAINING PROP-NOT AN OCCUPIED BUILDING. FIRE TRAINING EXERCISES WILL BE CONDUCTED USING CLASS "A" FUELED BURNS. AT THE END OF EACH DAY THE FIRE DEPARTMENT WILL EXTINGUISH ALL FIRES.	PROJECT OWNER CITY OF MESA 20 E. MAIN STREET MESA, AZ 85211 (480) 644-3380	PROJECT DESCRIPTION NEW CONSTRUCTION "CLASS A" BURN PROP ON THE MESA PUBLIC SAFETY TRAINING FACILITY CAMPUS LOCATED AT 3260 N. 40TH STREET. THE PROJECT INCLUDES VARIOUS TRAINING PROPS/ AREAS FOR PUBLIC SAFETY TRAINING	STRUCTURAL GERVASIO & ASSOC., INC. (602) 285-1720
 MASONRY	 PLYWOOD	 DRAWING NUMBER XX DRAWING TITLE DRAWING SCALE	 WINDOW TYPE	CONSTRUCTION TYPE: IIB	PROJECT USER CITY OF MESA FIRE DEPARTMENT		ELECTRICAL NP ENGINEERING (602) 265-1559
 GLASS (ELEVATION)	 GLASS (SECTION)	 DETAIL NO. XX SHEET NO.	 DOOR NUMBER	BASIC ALLOWABLE AREA (TABLE 503) OCCUPANCY GROUP U: 8,500 S.F. 2 STORIES			
 RIGID INSULATION	 LARGE SCALE METAL		 ROOM NAME #	FIRE RESISTANCE FOR EXTERIOR WALLS PER TABLES 601 AND 602, EXTERIOR WALLS ARE NOT RATED, IF SEPARATION IS EQUAL TO, OR GREATER THAN 10 FEET.			
 BATT INSULATION	 WATER PROOFING						
	 SMALL SCALE METAL						

GENERAL FLOOR PLAN NOTES

- A. DIRECTION OF DOWNWARD SLOPE OF TOP OF CONCRETE IS INDICATED WITH →
- B. SEE CIVIL FOR FINISHED GRADE ELEVATIONS AT PERIMETER OF BURN BUILDING AND OTHER SITE ELEVATIONS.
- C. ALL MASONRY WALLS ARE 8" THICK (NOMINAL). ALL CONCRETE WALLS ARE 8" THICK (ACTUAL).
- D. AT DOORWAYS IN MASONRY WALLS WITHOUT DOORS, PROVIDE FULL HEIGHT OPENING WITH NO LINTEL. PROVIDE BULLNOSED CORNERS AT BOTH JAMBS. ALSO PROVIDE BULLNOSED CORNERS AT JAMBS OF ALL DOOR & WINDOW OPENINGS & AT ENDS OF WALLS THAT DO NOT INTERSECT OTHER WALLS.
- E. SEE SHEETS A6.0-A6.3 FOR DOORS AND WINDOWS. Ⓢ DENOTES DOOR MARK ON PLAN. SEE SHEET A6.0 FOR DOOR SCHEDULE.
- F. SEE SHEET A5.1 FOR THERMAL LINING NOTES & DETAILS.
- G. PROVIDE "CRICKETS" IN TOP SURFACE OF SLAB WITH NON-SLOPING RIDGE TO ACHIEVE GRADUAL, POSITIVE DRAINAGE TOWARDS SCUPPERS & DOORS AT LOCATIONS SHOWN IN PLANS.
- H. AT MASONRY, ALL CUTS SHOULD BE IN THE MIDDLE OF THE WALL - NOT AT TOP OR ENDS.

KEYED NOTES

- 1 SCUPPERS PER SHEET A7.0
- 2 PROVIDE 16" WIDE OPENING AT BASE OF INTERIOR WALL PER DETAIL 5/A7.0
- 3 HANDRAIL PER DETAIL 11/A8.0. WHERE RAILING IS MOUNTED AT THERMAL LINING, EXTEND ANCHORS THROUGH LINING INTO CONCRETE WALL
- 4 ROOF OPENING ABOVE
- 6 GUARDRAIL PER DETAIL 5/A8.1
- 8 STANDPIPE - SEE DETAIL 9/A2.0
- 7 EDGE OF SLAB ABOVE. SEE DETAIL 5/A7.1 FOR FALSE CEILING PROP.
- 8 BEAM ABOVE. SEE DETAIL 5/A7.1 FOR FALSE CEILING PROP.

WALL LEGEND

- 8x8x16 REGULAR CMU WALL - SEE WALL TYPES
- 3" THERMAL LININGS ON BURN ROOM CEILINGS, INTERIOR COLUMNS, & CONC. WALLS AS INDICATED ON PLANS - SEE WALL TYPES
- 8" PRE-CAST CONCRETE SHEAR WALLS - SEE WALL TYPES

ROOM FINISH SCHEDULE

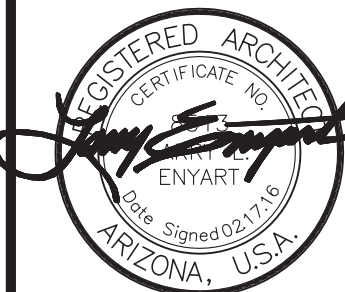
No.	ROOM NAME	FLR.	WALL	CLNG.	NOTES	No.
			FIRE BRICK CONCRETE THERMAL LINING CONCRETE CMU THERMAL LINING		<div>NORTH W E S</div>	
101	GARAGE		•	•	1 & 2	101
102	KITCHEN/ DINING/ LIVING		•	•	1 & 2	102
103	BATH/ LAUNDRY		•	•	1 & 2	103
104	HALLWAY		•	•	1 & 2	104
105	OFFICE		•	•	1 & 2	105
106	BEDROOM		•	•	1 & 2	106
107	BEDROOM		•	•	1 & 2	107
201	FAMILY ROOM		•	•	1 & 2	201
202	SITTING ROOM		•	•	1 & 2	202
203	MASTER BEDROOM		•	•	1 & 2	203
204	MASTER BATH		•	•	1 & 2	204
205	MASTER CLOSET		•	•	1 & 2	205
#1	STAIR #1		•	•	1	#1

- REMARKS
1. ALL EXPOSED CONCRETE AND CMU SURFACES ARE UNPAINTED.
2. SEE SPECS FOR CONCRETE COATING/ SEALER ON TOP OF CONCRETE SLAB (BELOW LOOSE LAID FIRE BRICK).
- ASI #01 2-24-16



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1730 EAST NORTHERN AVE.
PHOENIX, ARIZONA

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CITY OF MESA
ENGINEERING DEPARTMENT

MESA PUBLIC SAFETY TRAINING FACILITY
BURN FACILITY EXPANSION

FIRST FLOOR PLAN

3260 N. 40TH STREET

MESA, ARIZONA

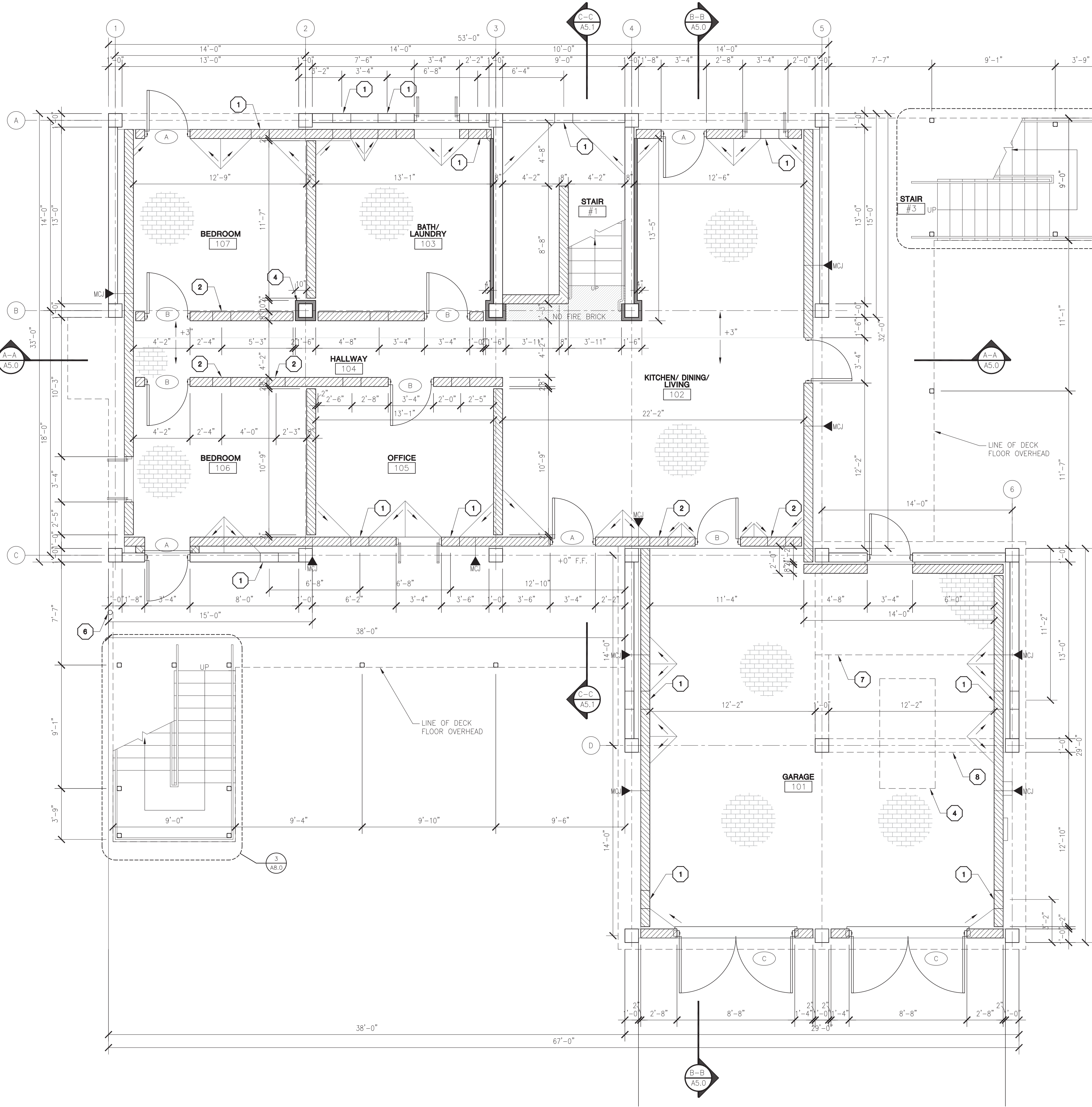
EXP. 09/30/17
DRAWN BY: SC
ARCHITECT/ENGINEER: LE
APPROVED BY: LE/RJ
ACTIVITY: _____
PROJ. NO.: CP0096

SHEET
5 OF 39

CATALOG NUMBER:
A183384

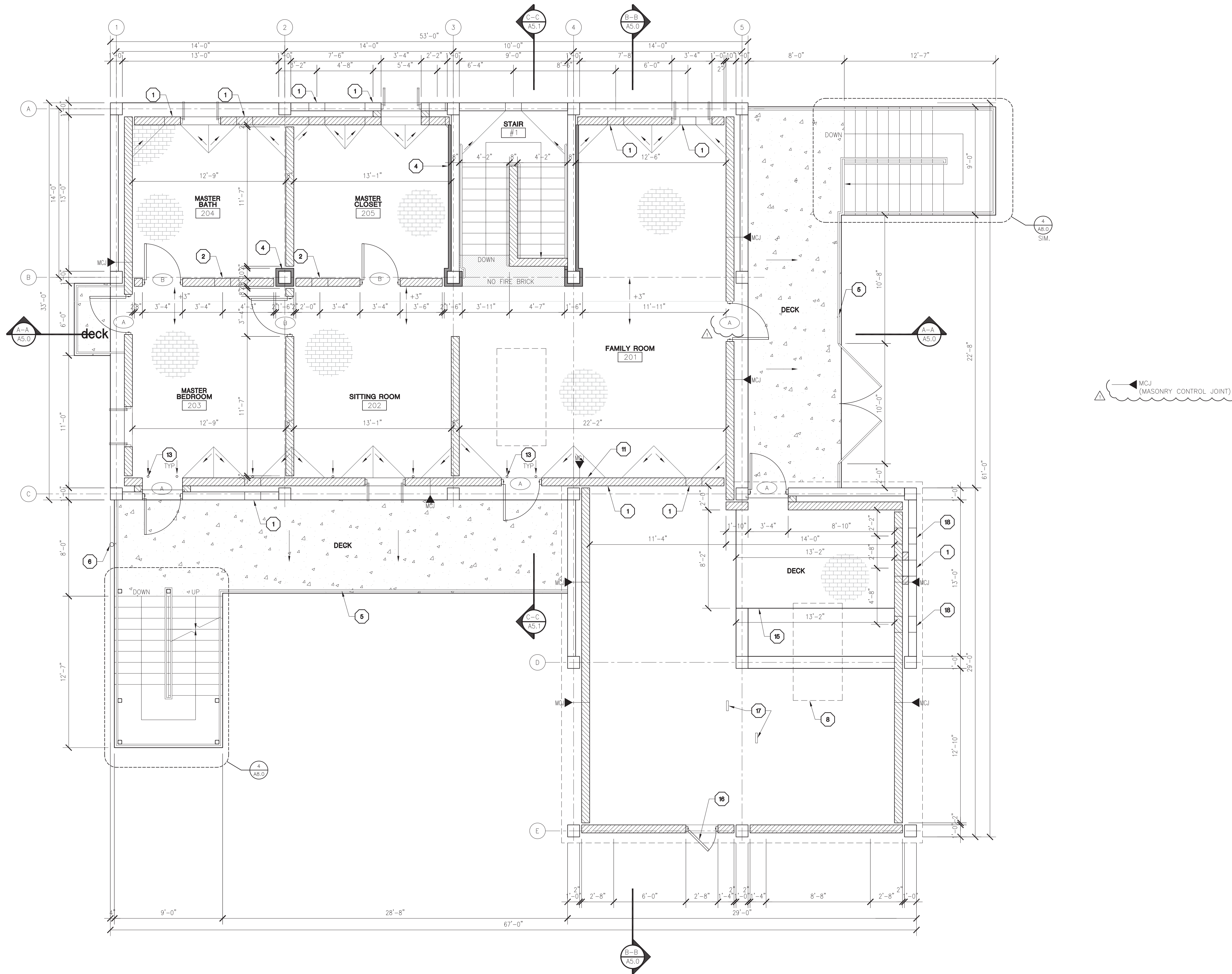
DRAWING

A3.0



FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"



GENERAL FLOOR PLAN NOTES

- A. DIRECTION OF DOWNWARD SLOPE OF TOP OF CONCRETE IS INDICATED WITH
- B. SEE CIVIL FOR FINISHED GRADE ELEVATIONS AT PERIMETER OF BURN BUILDING AND OTHER SITE ELEVATIONS.
- C. ALL MASONRY WALLS ARE 8" THICK (NOMINAL). ALL CONCRETE WALLS ARE 8" THICK (ACTUAL).
- D. AT DOORWAYS IN MASONRY WALLS WITHOUT DOORS, PROVIDE FULL HEIGHT OPENING WITH NO LINTEL. PROVIDE BULLNOSED CORNERS AT BOTH JAMBS. ALSO PROVIDE BULLNOSED CORNERS AT JAMBS OF ALL DOOR & WINDOW OPENINGS & AT ENDS OF WALLS THAT DO NOT INTERSECT OTHER WALLS.
- E. SEE SHEETS A6.0-A6.3 FOR DOORS AND WINDOWS. DENOTES DOOR MARK ON PLAN. SEE SHEET A6.0 FOR DOOR SCHEDULE.
- F. SEE SHEET A5.1 FOR THERMAL LINING NOTES & DETAILS.
- G. PROVIDE "CRICKETS" IN TOP SURFACE OF SLAB WITH NON-SLOPING RIDGE TO ACHIEVE GRADUAL POSITIVE DRAINAGE TOWARDS SCUPPERS & DOORS AT LOCATIONS SHOWN IN PLANS.
- H. AT MASONRY, ALL CUTS SHOULD BE IN THE MIDDLE OF THE WALL - NOT AT TOP OR ENDS.

KEYED NOTES

- SCUPPERS PER SHEET A7.0
- PROVIDE 16" WIDE OPENING AT BASE OF INTERIOR WALL PER DETAIL 5/A7.0
- HANDRAIL PER DETAIL 11/A8.0. WHERE RAILING IS MOUNTED AT THERMAL LINING, EXTEND ANCHORS THROUGH LINING INTO CONCRETE WALL
- ROOF OPENING ABOVE
- GUARDRAIL PER DETAIL 5/A8.1
- STANDPIPE - SEE DETAIL 9/A2.0
- ROOF OPENING ABOVE PER DETAIL 1/A7.1
- ROOF OPENING ABOVE PER DETAIL 1/A7.2
- 4'-0" TALL CMU WALLS
- 4'-0" TALL CONCRETE WALLS
- TOP OF CONCRETE STEPS +2 1/2" AT INTERIOR FACE OF WALL ALONG COLUMN LINE C & 5.
- PROVIDE THERMAL LINING FULL HEIGHT ON ALL COLUMN FACES AT COLUMNS WHERE COLUMNS INTERSECT PARTIAL HEIGHT OR PARTIALLY LINED WALLS
- PROVIDE WEEP HOLES BELOW FIRE BRICK AT DOOR/ SCUPPER PER DETAIL 3/A7.2
- THERMAL LINING ON WALL & COLUMN BELOW ROOF SLAB & ABOVE SECOND FLOOR
- EDGE OF SECOND FLOOR SLAB THAT PROJECTS INTO "GARAGE" BELOW ROOF
- VENT SHUTTER PER DETAIL 7/A6.1
- PROVIDE 10" LONG S.S. OPEN BASE CLEAT - ATTACHED TO CONC. W/ (4) 5/16" S.S. CONC. ANCHOR SCREWS (MIN. 2" EMBED DEPTH) COORD. W/ MESA FIRE FOR LOCATION
- VENT SHUTTER PER DETAIL 1/A7.3

WALL LEGEND

- 8x8x16 REGULAR CMU WALL - SEE WALL TYPES
- 3" THERMAL LININGS ON BURN ROOM CEILINGS, INTERIOR COLUMNS, & CONC. WALLS AS INDICATED ON PLANS - SEE WALL TYPES
- 8" PRE-CAST CONCRETE SHEAR WALLS - SEE WALL TYPES

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CITY OF MESA
ENGINEERING DEPARTMENT

MESA PUBLIC SAFETY TRAINING FACILITY
BURN FACILITY EXPANSION

SECOND FLOOR PLAN

EXP. 09/30/17
DRAWN BY: SC
ARCHITECT/ENGINEER: LE
APPROVED BY: LE/RJ

3260 N. 40TH STREET

MESA, ARIZONA

ACTIVITY: _____
PROJ. NO.: CP0096

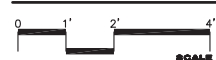
SHEET
6 OF 39

CATALOG NUMBER:
A183385

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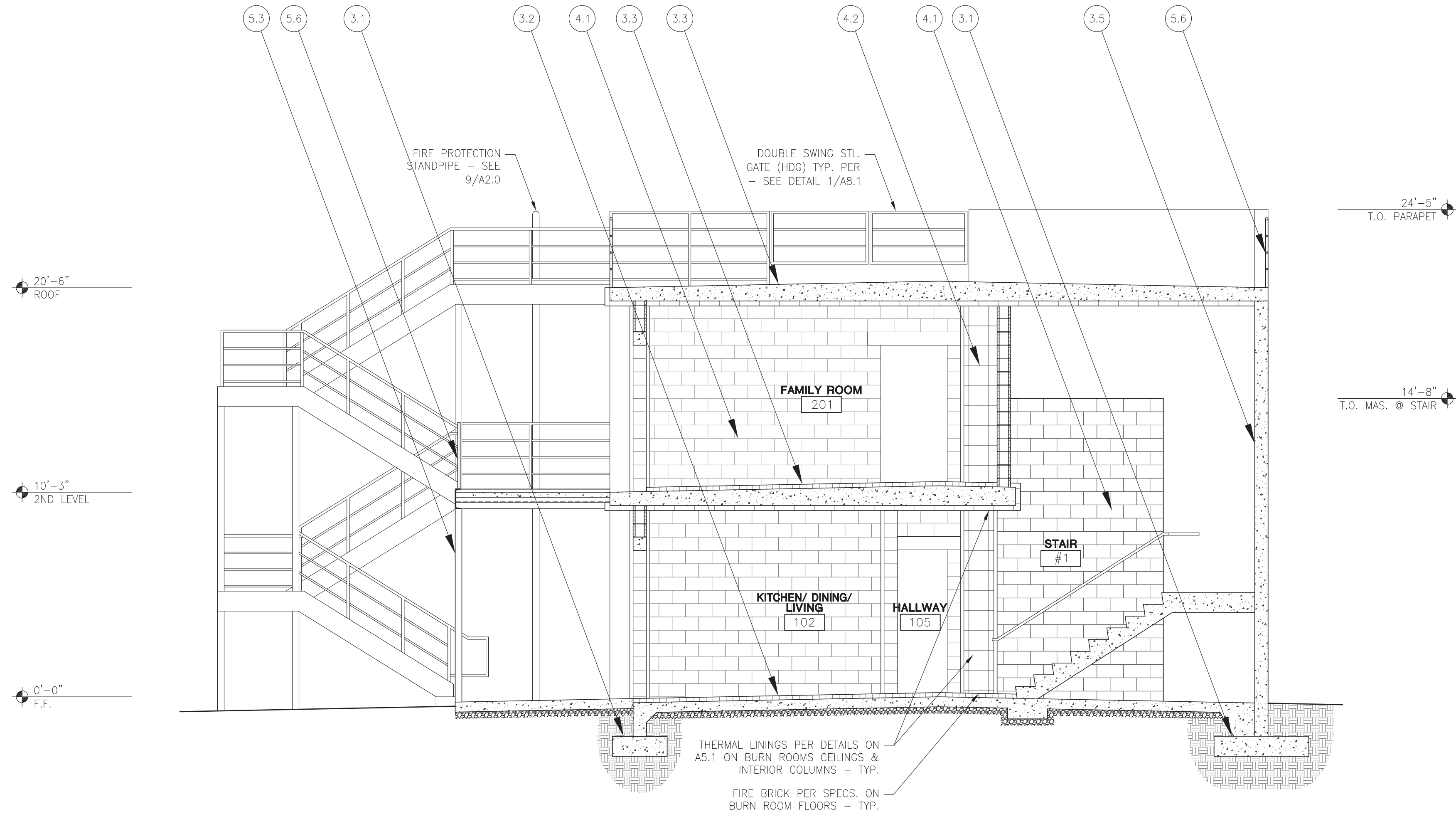
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SECOND FLOOR PLAN



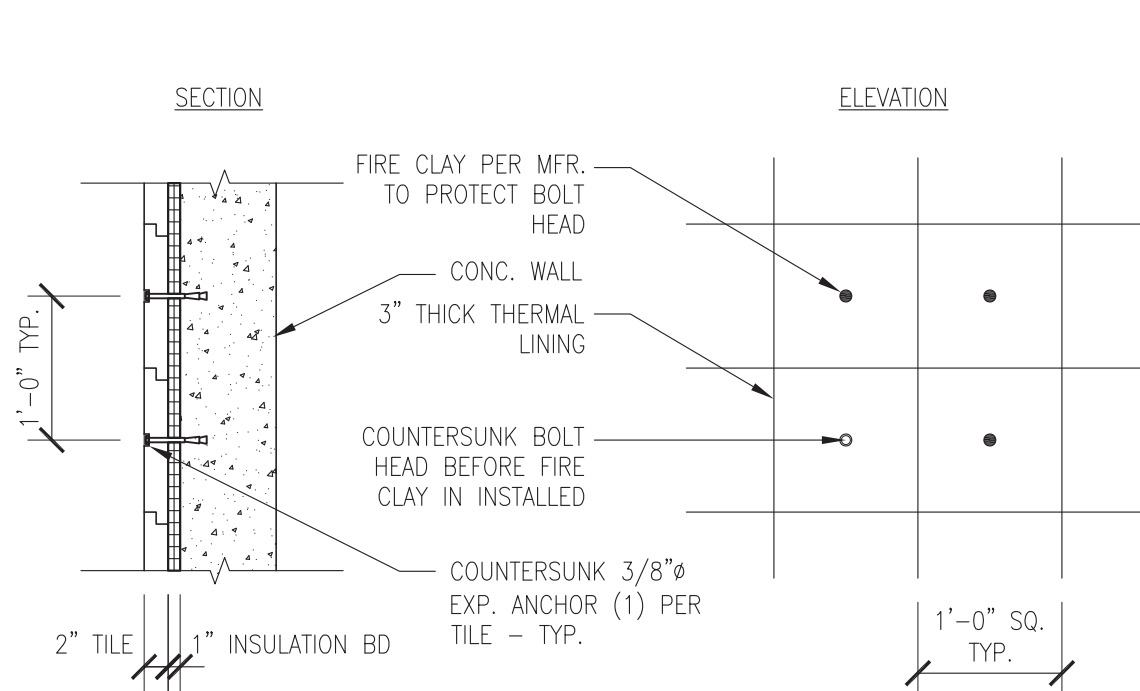
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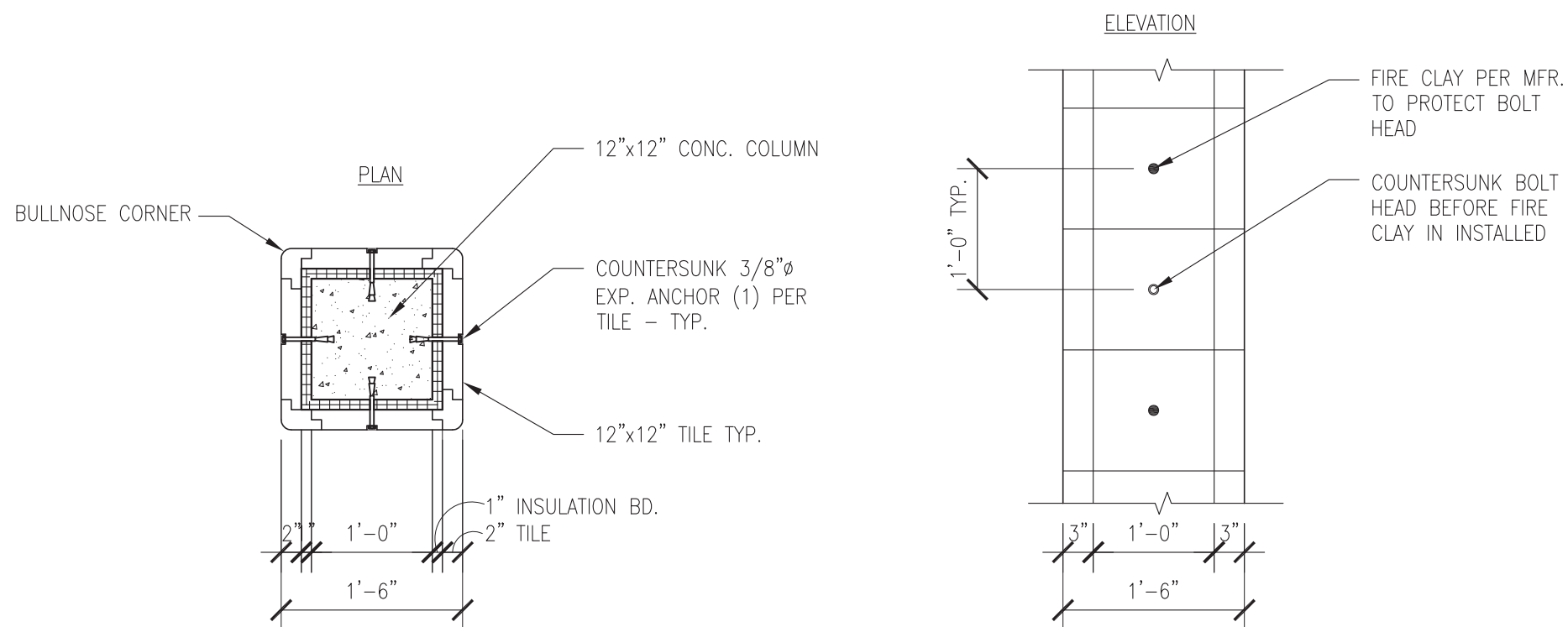


SECTION C-C

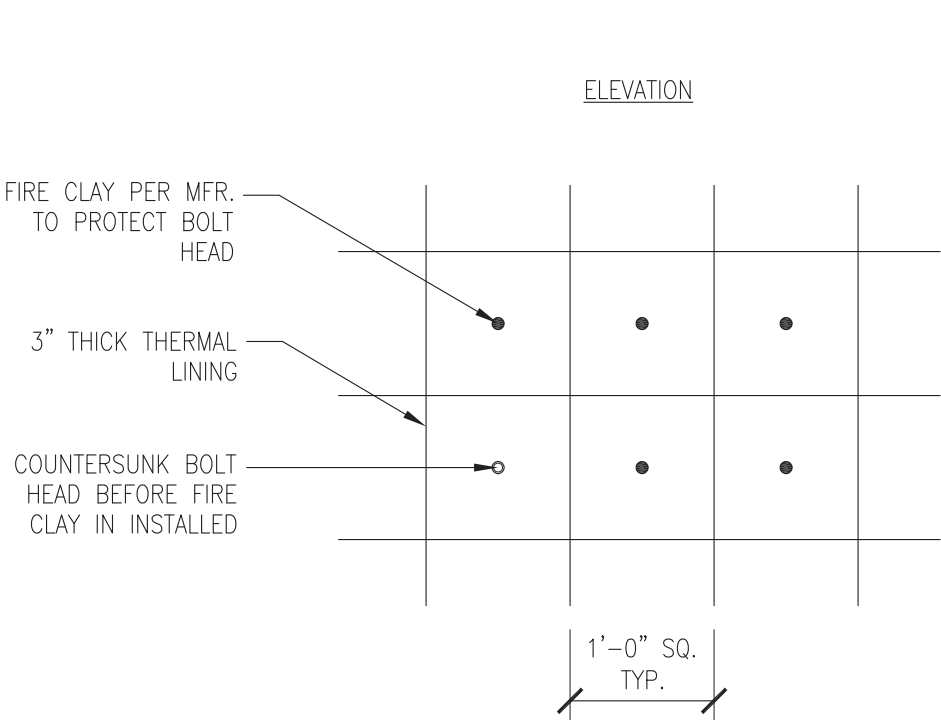
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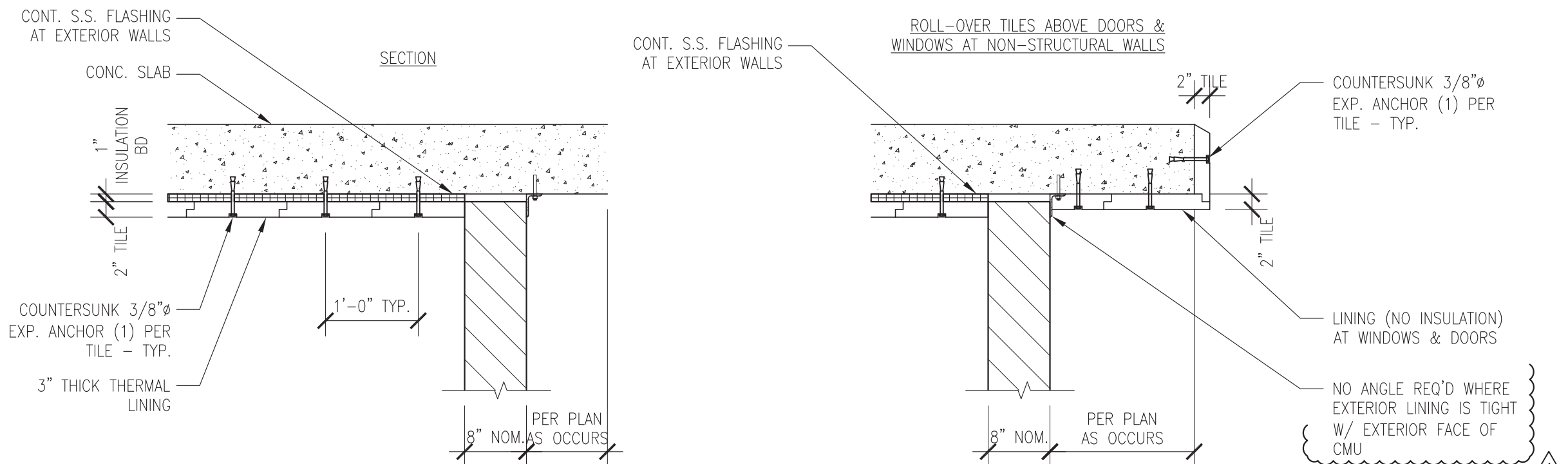
THERMAL LININGS AT CONC. WALLS



THERMAL LININGS AT CONC. COLUMNS



THERMAL LININGS AT CEILING



1 TYPICAL THERMAL LININGS DETAILS

SCALE: 3/4" = 1'-0"

THERMAL LINING

1. THE BASIS OF DESIGN FOR THE THERMAL LINING SYSTEM IS HTL SYSTEM 203 AND 203 LITE MANUFACTURED BY HIGH TEMPERATURE LININGS. SEE SPECIFICATION SECTION 07 00 00, THERMAL LINING SYSTEM FOR ADDITIONAL INFORMATION.
2. INSTALL THERMAL LININGS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURE. INSTALLATION SHALL BE PERFORMED BY A MANUFACTURE APPROVED INSTALLER.
3. THE THERMAL LINING INSTALLER REQUIRES THE FOLLOWING SEQUENCE OF CONSTRUCTION TO COORDINATE INSTALLATION OF THERMAL LININGS AND MASONRY WALLS:
 - A. CONSTRUCT THE CONCRETE FRAME AND STRUCTURE.
 - B. CONSTRUCT EXTERIOR MASONRY WALLS.
 - C. INSTALL THERMAL LININGS ON CEILINGS.
 - D. CONSTRUCT INTERIOR MASONRY WALLS.
 - E. INSTALL BRACING ANGLES AT TOPS OF INTERIOR AND EXTERIOR WALLS.
4. AS REQUIRED BY THE THERMAL LINING MANUFACTURER, THE OWNER WITH THE CONTRACTOR & THERMAL LINING (HTL) REPRESENTATIVE, PRESENT, WILL PERFORM A "PRE-BURN" AT LEAST ONE-DAY BEFORE TRAINING BEGINS TO PROPERLY DRY OUT AND CURE THE THERMAL LININGS AS FOLLOWS:
 - A. BURN 2 WOOD PALLETS AND A BAIL OF STRAW IN EACH ROOM THAT CONTAINS THERMAL LINING TILES.
 - B. ALLOW THE FIRE TO BURN UNTIL NEARLY EXHAUSTED.
 - C. AT THIS POINT, ADD 2 MORE PALLETS AND BURN AGAIN UNTIL NEARLY EXHAUSTED.
 - D. REPEAT FOR A TOTAL OF 4 TIMES (8 PALLETS).
 - E. LET THE FIRE BURN OUT COMPLETELY WITHOUT THE USE OF WATER TO EXTINGUISH THE FIRE.
 - F. DO NOT BURN ALL 8 PALLETS AT THE SAME TIME.
5. MANUFACTURE SHALL PROVIDE THE FOLLOWING OPERATIONS & MAINTENANCE INFORMATION:
 - A. PER SPEC SECTION 01 76 23 O&M INFORMATION.
 - B. STANDARD OPERATING PROCEDURES.
 - C. PRE-BURN & CURING RECOMMENDATIONS.
 - D. BASIC MAINTENANCE.

NOTE:

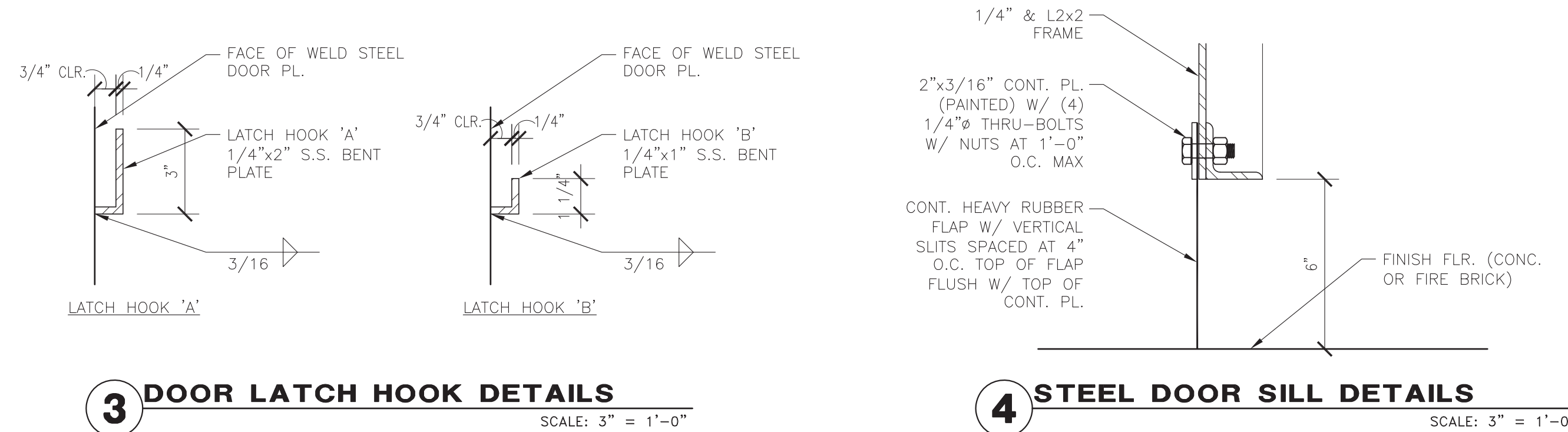
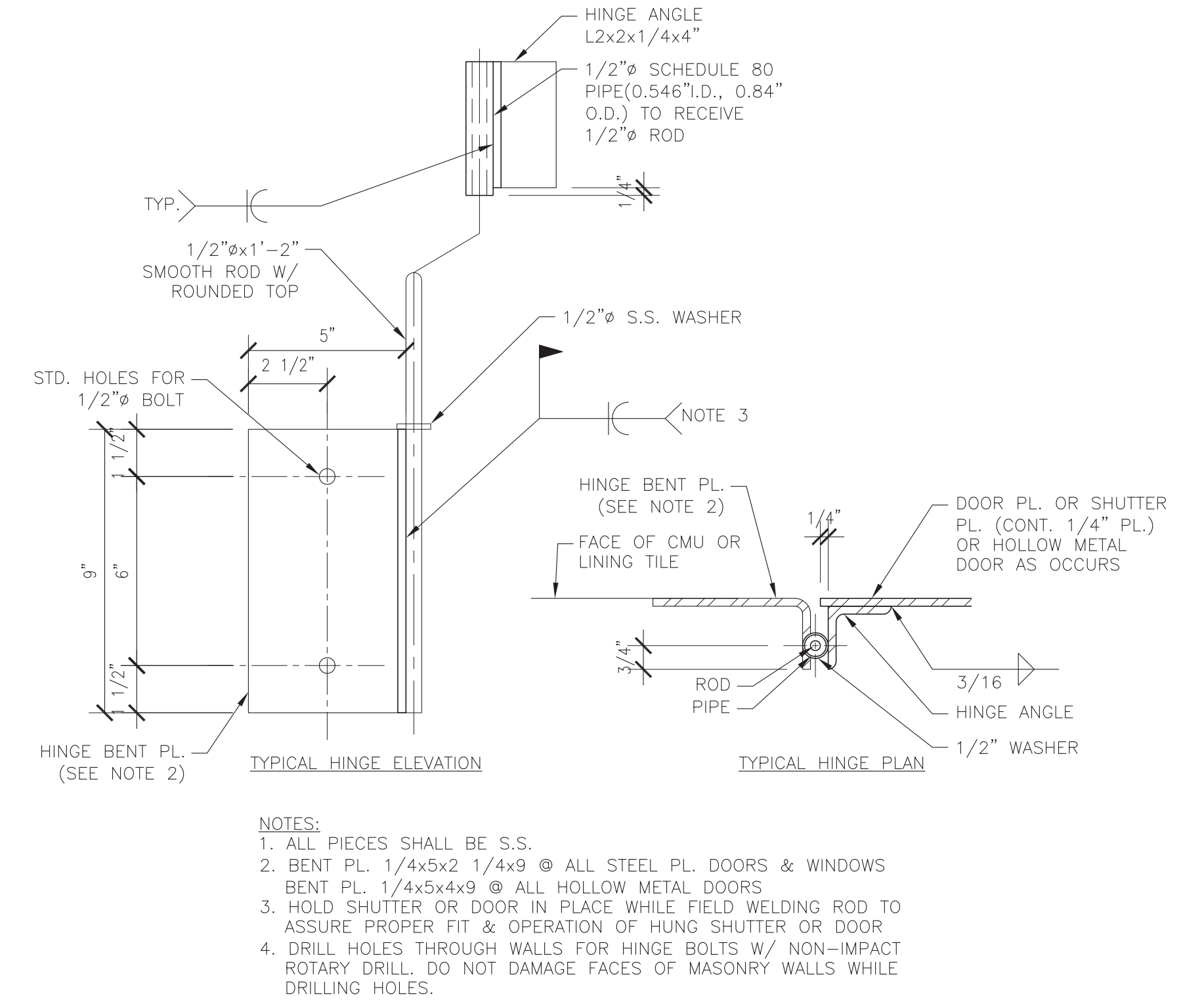
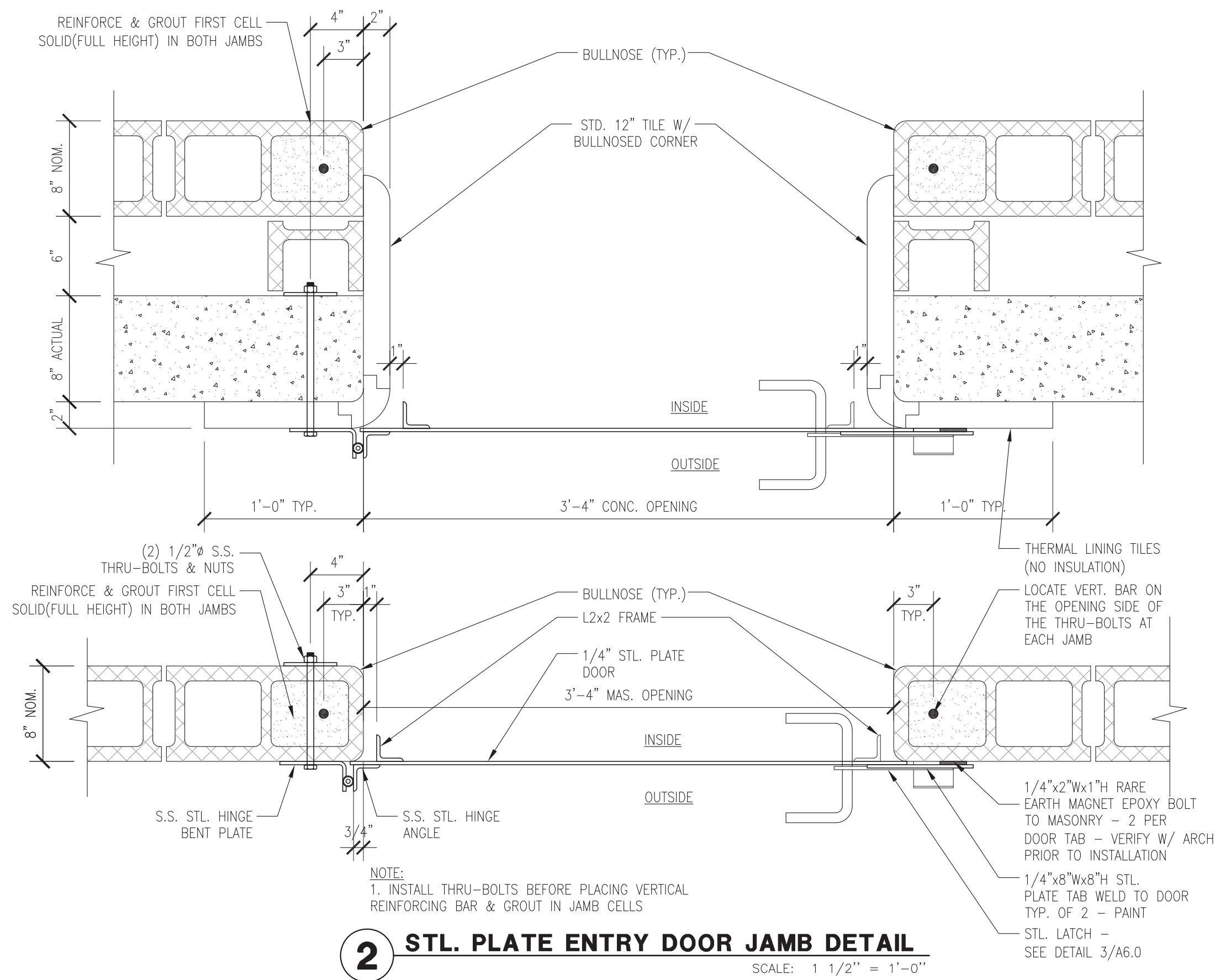
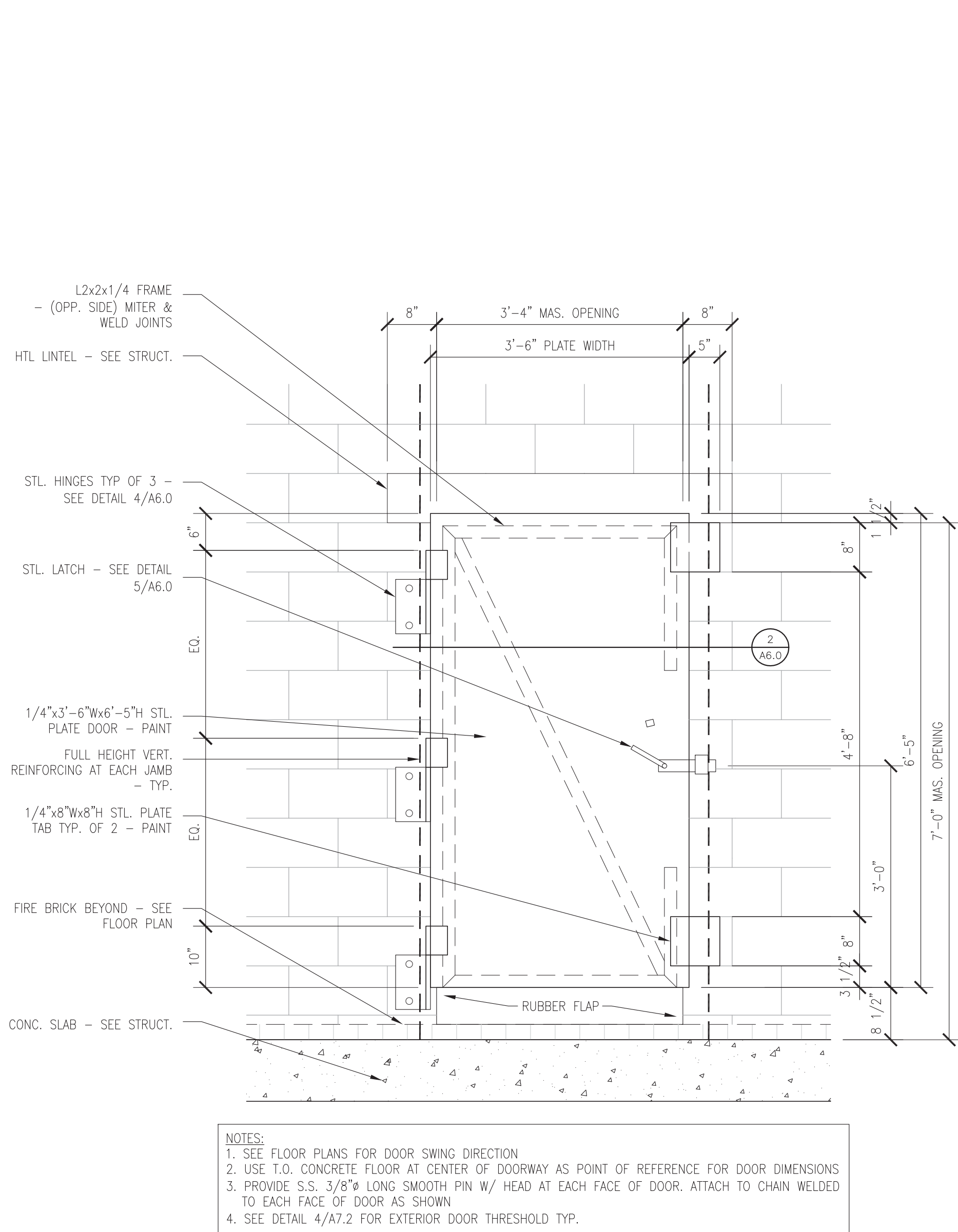
SEE DETAIL 5/A7.0 FOR CAST-IN-PLACE WALL JOINT DETAIL & STRUCT. (TYP. @ CAST-IN-PLACE CONC.)

KEY NOTES

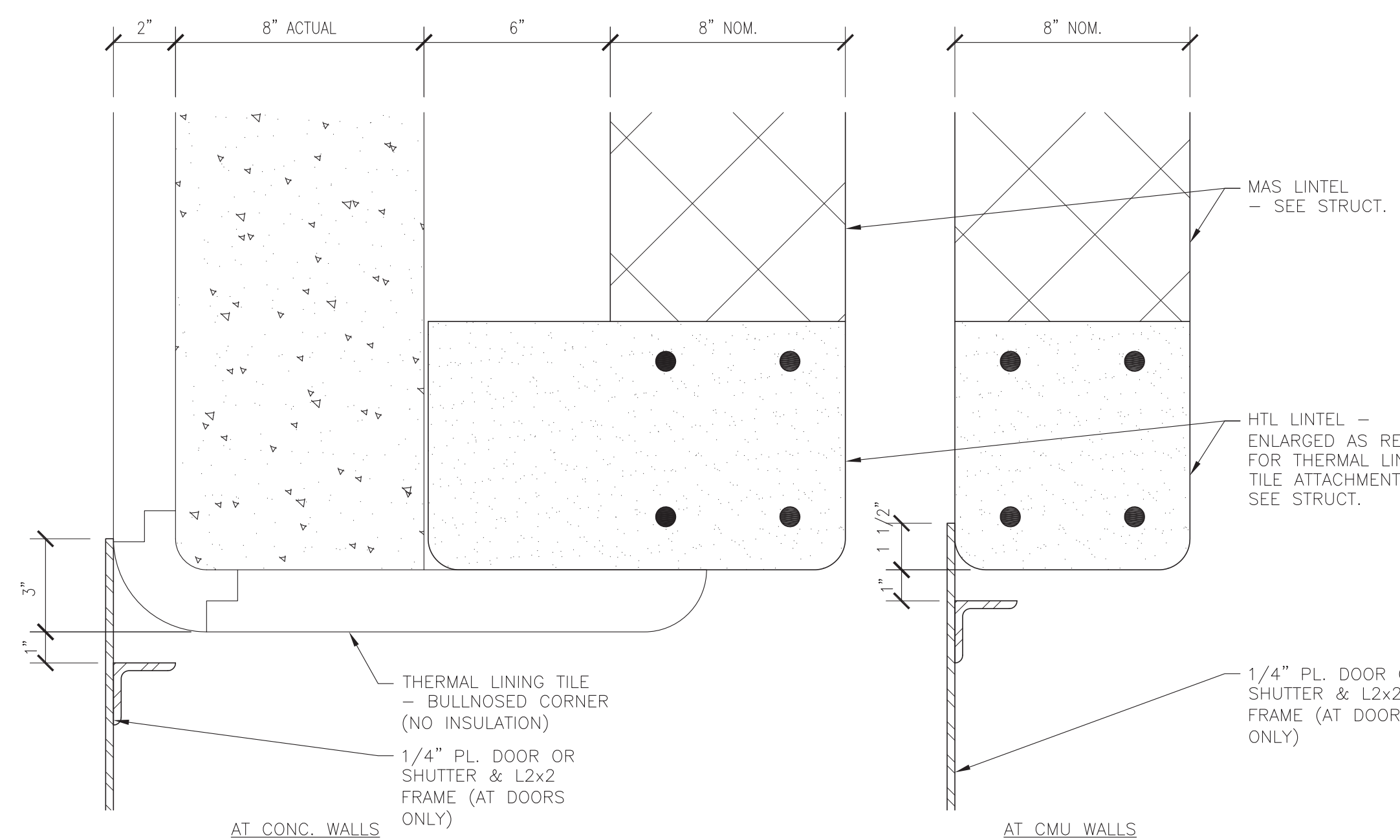
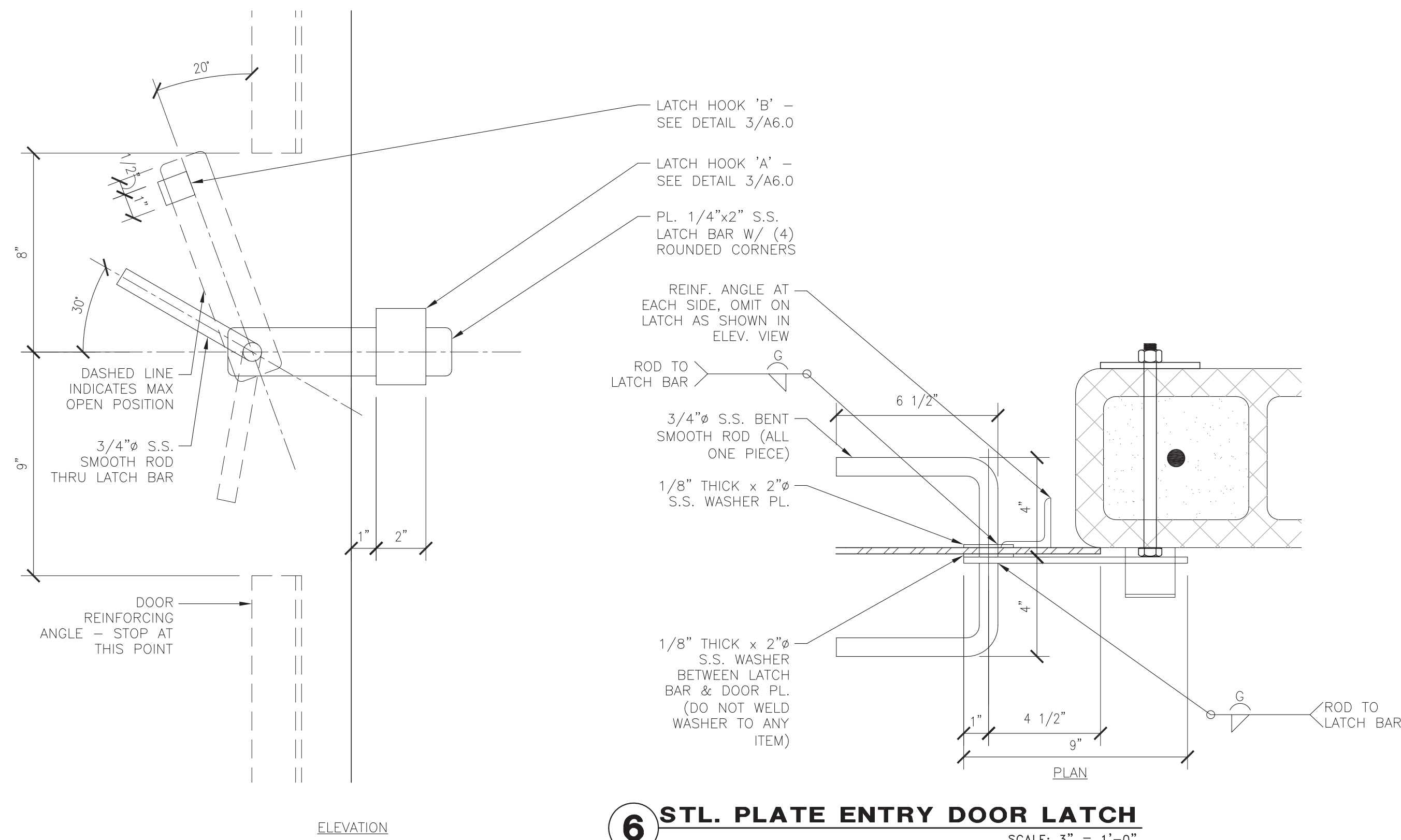
- 3.1 CONC. FTG. - SEE STRUCT.
- 3.2 CONC. SLAB OVER BASE COURSE W/ FIRE BRICK AS OCCURS - SEE STRUCT.
- 3.3 CONC. SLAB W/ FIRE BRICK AS OCCURS.
- 3.4 1/2" PRE-MOLD EXP. JOINT - CAULK (TYP.)
- 3.5 CAST IN PLACE CONC. WALL W/ SNAP TIES
- 3.6 CAST CONC. PANEL - SEE STRUCT.
- 4.1 8x8x16 REGULAR CMU
- 4.2 THERMAL LININGS - SEE 1/A5.1 FOR DETAILS
- 5.1 STL. BEAM - SEE STRUCT.
- 5.2 STL. PLATE / HDG - SEE STRUCT.
- 5.3 STL. TUBE / HDG - SEE STRUCT.
- 5.4 STL. WEB STIFFENER / HDG - SEE STRUCT.
- 5.5 CHAIN LINK FALL PROTECTION SYSTEM
- 5.6 STL. GUARD RAIL OR HANDRAIL / HDG
- 5.7 BENT STL. PLATE / HDG - SEE STRUCT.
- 5.8 STL. C CHANNEL / HDG - SEE STRUCT.
- 5.9 STL. ANGLE / HDG - SEE STRUCT.
- 8.1 H.M. DOOR / HDG
- 8.2 H.M. FRAME / HDG
- 8.3 STL. WINDOW / HDG
- 8.4 STL. DOOR

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	CITY OF MESA ENGINEERING DEPARTMENT MESA PUBLIC SAFETY TRAINING FACILITY BURN FACILITY EXPANSION BUILDING SECTIONS/ THERMAL LINING DETAILS 3260 N. 40TH STREET MESA, ARIZONA SHEET 11 OF 39 CATALOG NUMBER: A183390
<small>DRAWN BY: SC ARCHITECT/ENGINEER: LE APPROVED BY: LE/RJ ACTIVITY: PROJ. NO.: CP0096</small>	<small>DRAWING A5.1</small>



DOOR SCHEDULE						
TYPE	DOOR SIZE	DOOR TYPE	JAMB	SILL	HEAD	REMARKS
A	3'-6"Wx6'-5"Hx1/4"T	STEEL PLATE	2/A6.0	4/A6.0	7/A6.0	PRIMARY DETAIL 1/A6.0
B	3'-6"Wx6'-8"Hx16GA	HOLLOW METAL	2/A6.1	4/A6.1	6/A6.1	PRIMARY DETAIL 1/A6.1
C	4'-4 1/2"Wx6'-5"Hx1/4"T	DOUBLE STEEL PLATE	2/A6.2	3/A6.2	7/A6.0	PRIMARY DETAIL 1/A6.2



NOTE: DOOR TYPES A, B, C, WINDOW SHUTTERS, ASSOC. STEEL HARDWARE TO BE PRIME PAINTED STEEL GRAY

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CITY OF MESA
ENGINEERING DEPARTMENT

MESA PUBLIC SAFETY TRAINING FACILITY
BURN FACILITY EXPANSION

DOOR SCHEDULE/
DOOR DETAILS

EXP. 09/30/17

DRAWN BY: SC
ARCHITECT/ENGINEER: LE
APPROVED BY: LE/RJ

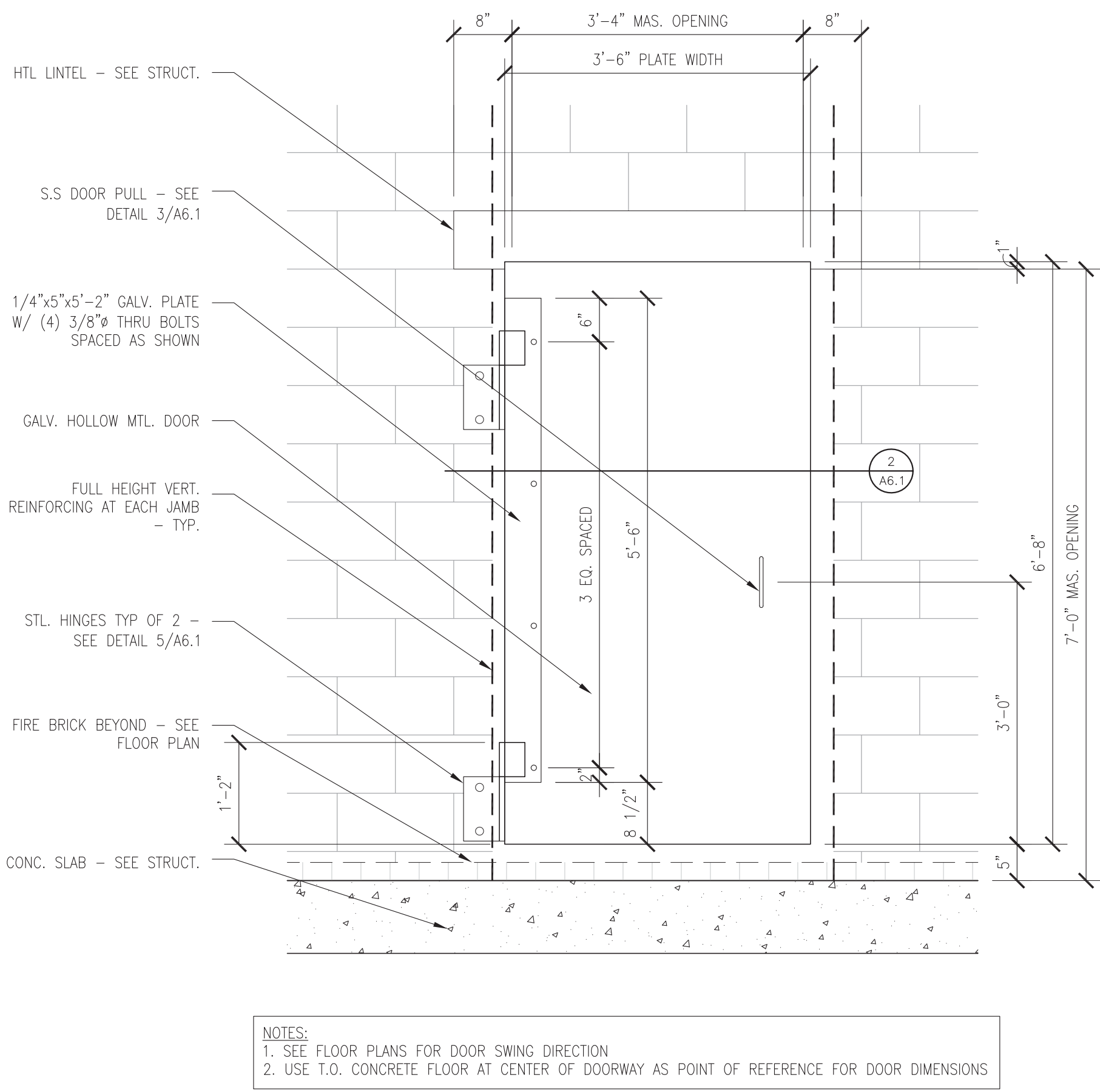
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PROJ. NO.: CP0096

3260 N. 40TH STREET
MESA, ARIZONA

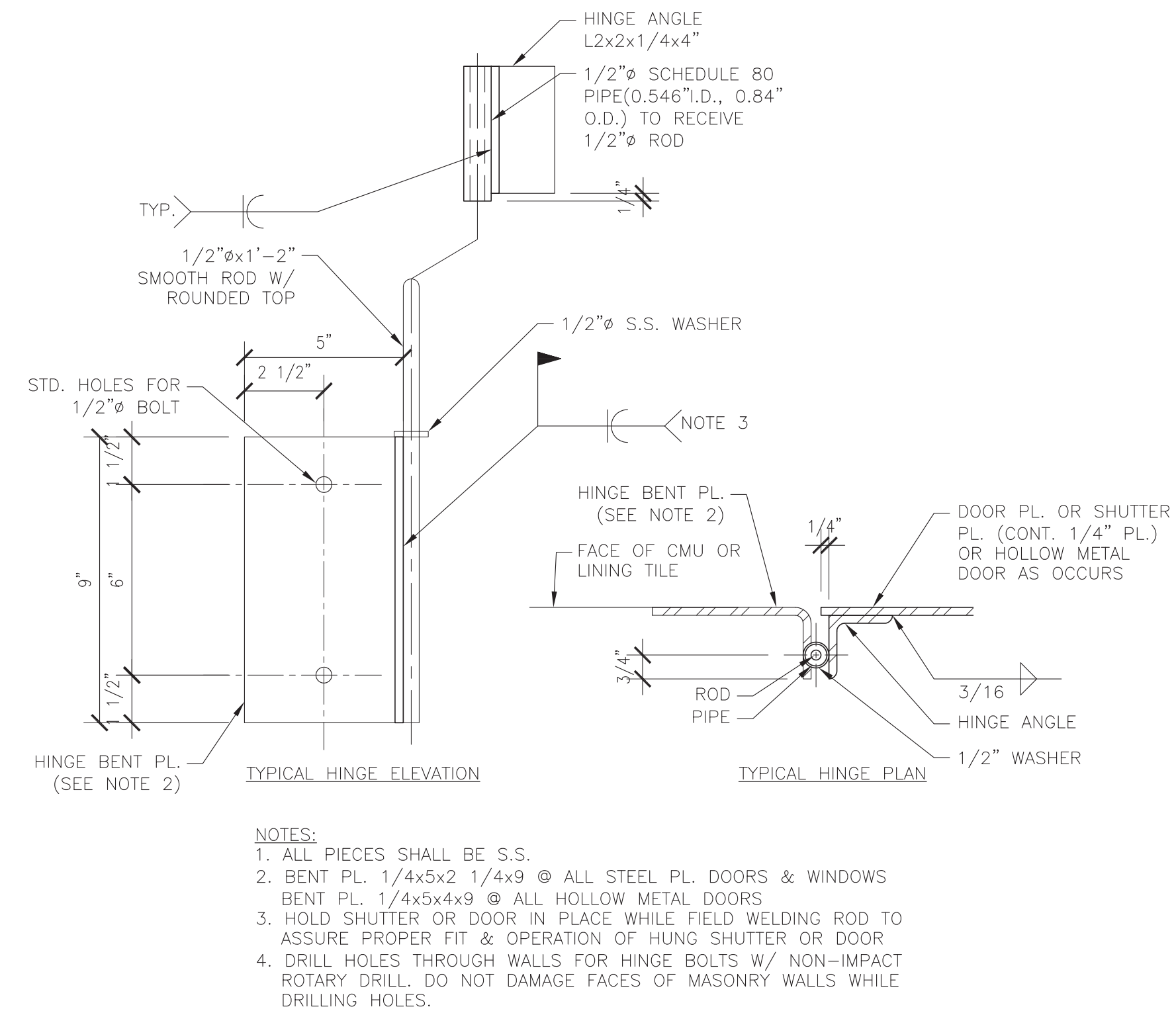
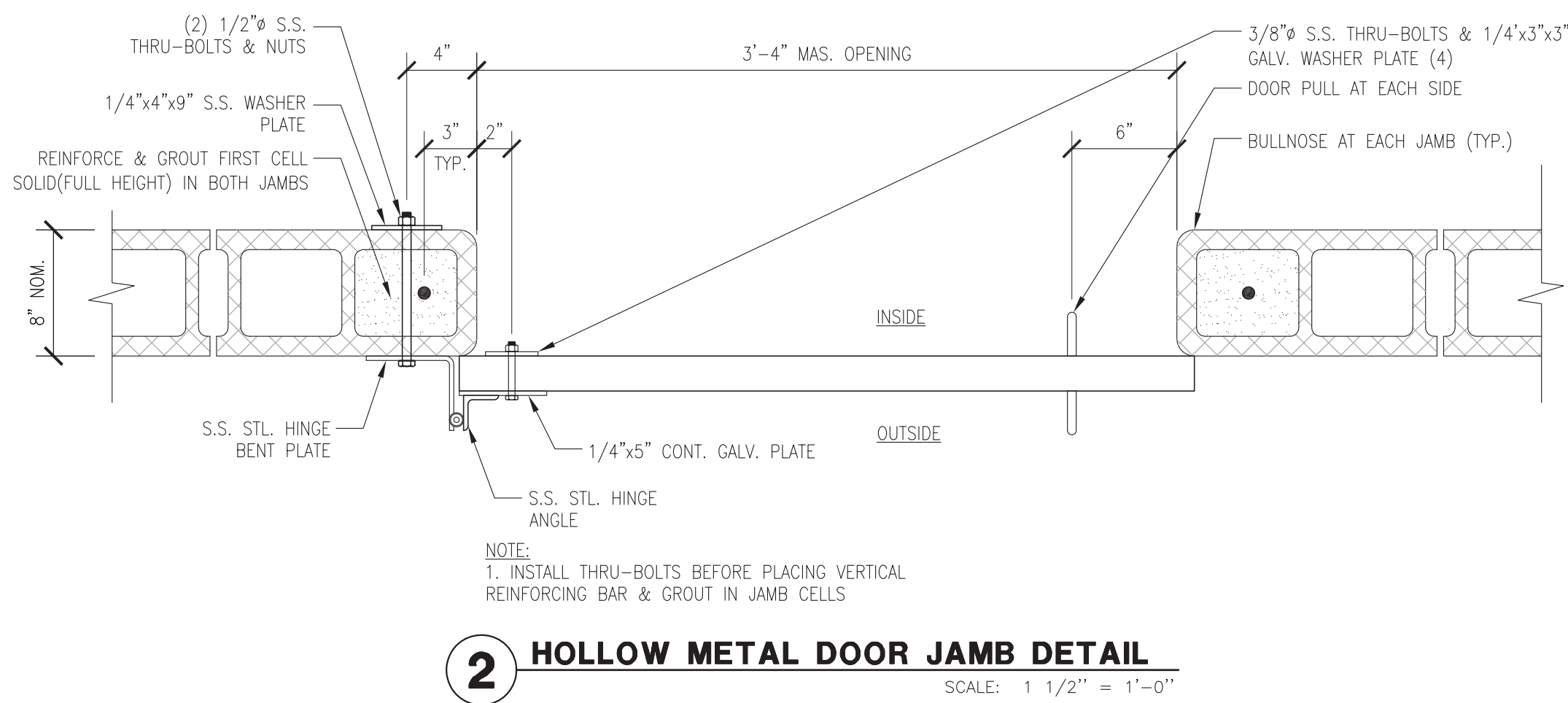
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SHEET
12 OF 39

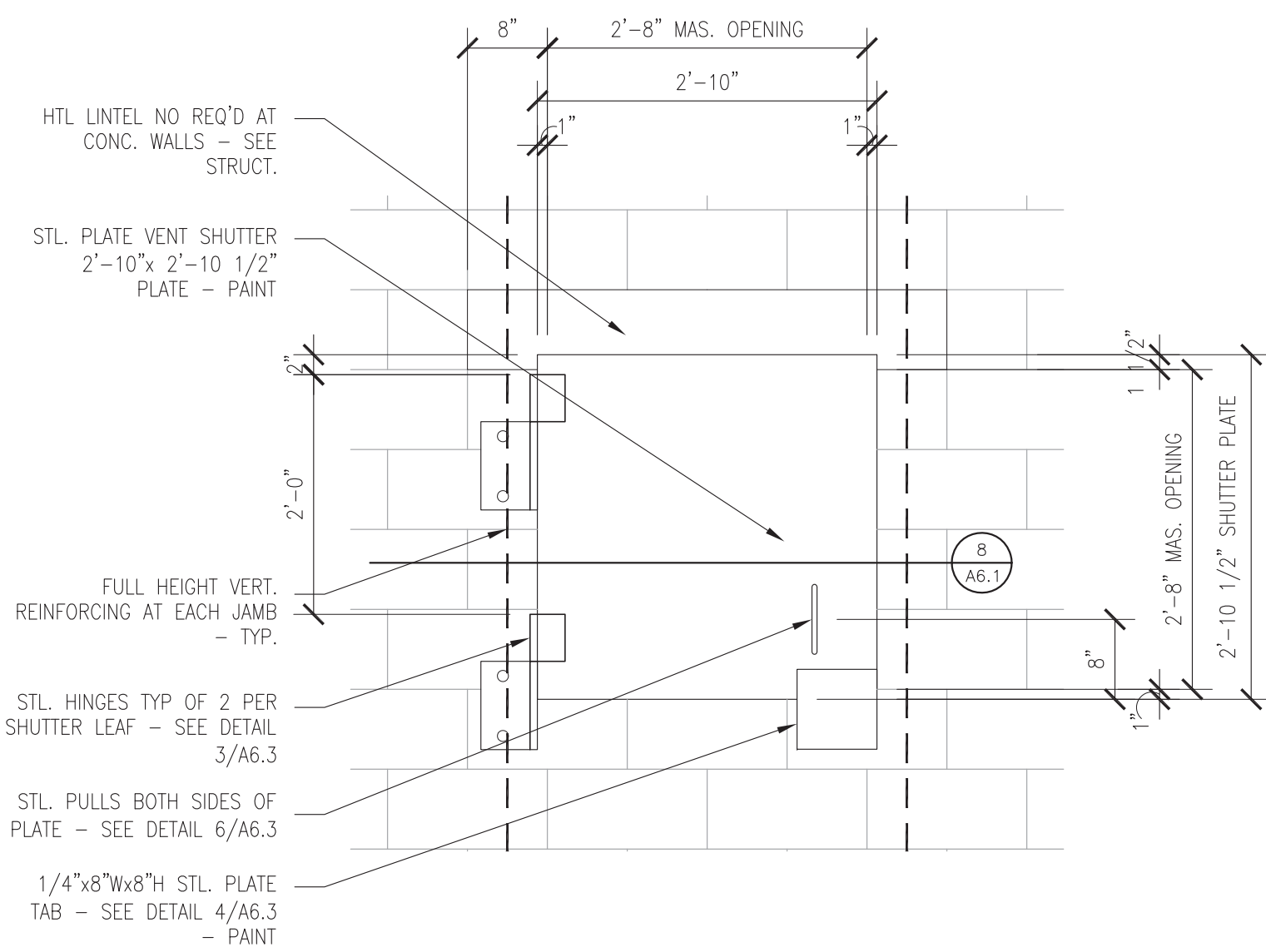
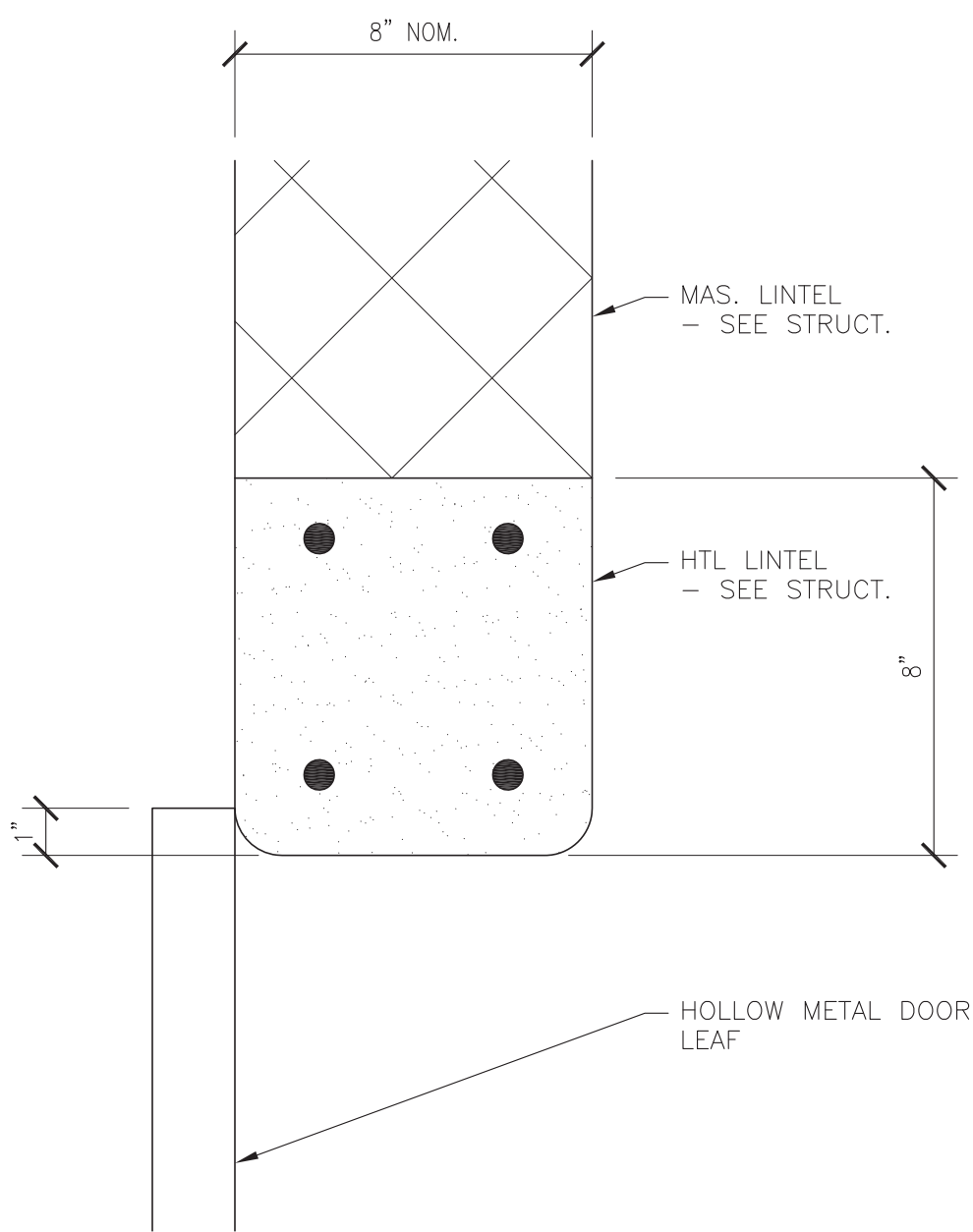
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A6.0



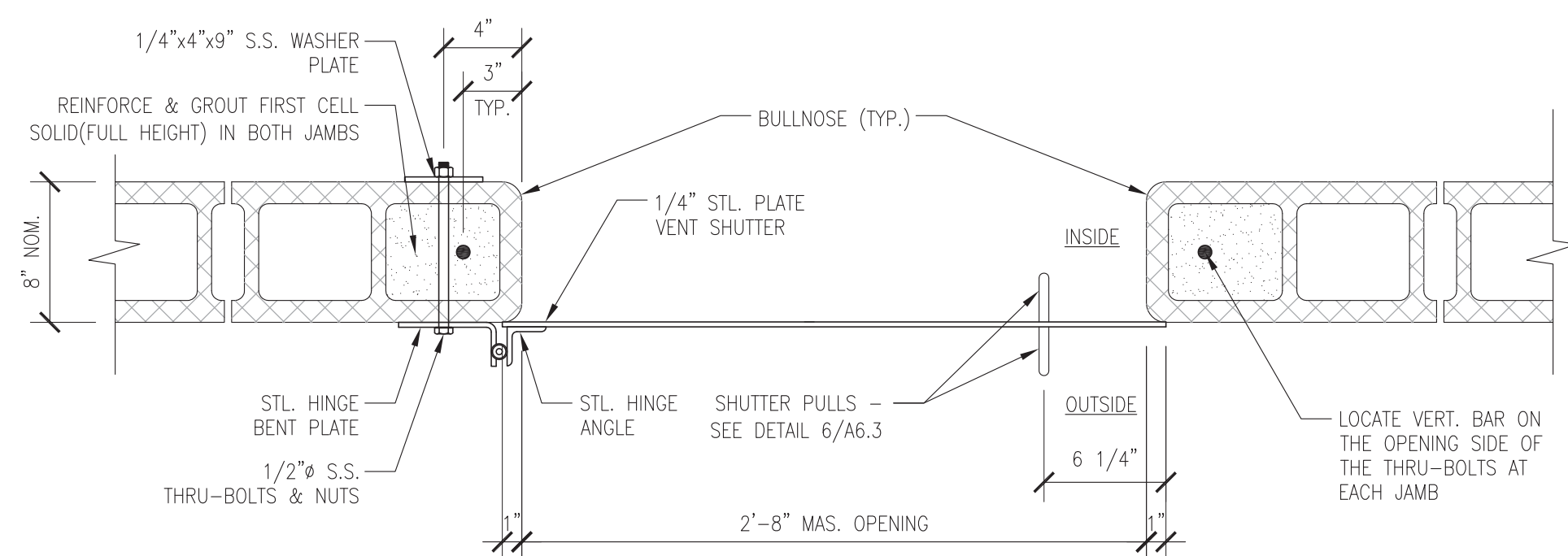
1 ELEV. HOLLOW MTL. DOOR (B) SCALE: 3/4" = 1'-0"



5 DOOR/ SHUTTER HINGE DETAILS SCALE: 3" = 1'-0"



7 ELEV. VENT SHUTTER SCALE: 3/4" = 1'-0"



8 VENT SHUTTER JAMB DETAILS SCALE: 1 1/2" = 1'-0"

NOTE: DOOR TYPES A, B, C, WINDOW SHUTTERS, ASSOC. STEEL HARDWARE TO BE PRIME PAINTED STEEL GRAY

ASI #01 2-24-16

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DOOR DETAILS	DRAWING
EXP. 09/30/17	A6.1
DRAWN BY: SC ARCHITECT/ENGINEER: LE APPROVED BY: LE/RJ	3260 N. 40TH STREET MESA, ARIZONA
ACTIVITY: _____ PROJ. NO.: CP0096	SHEET 13 OF 39 CATALOG NUMBER: A183392



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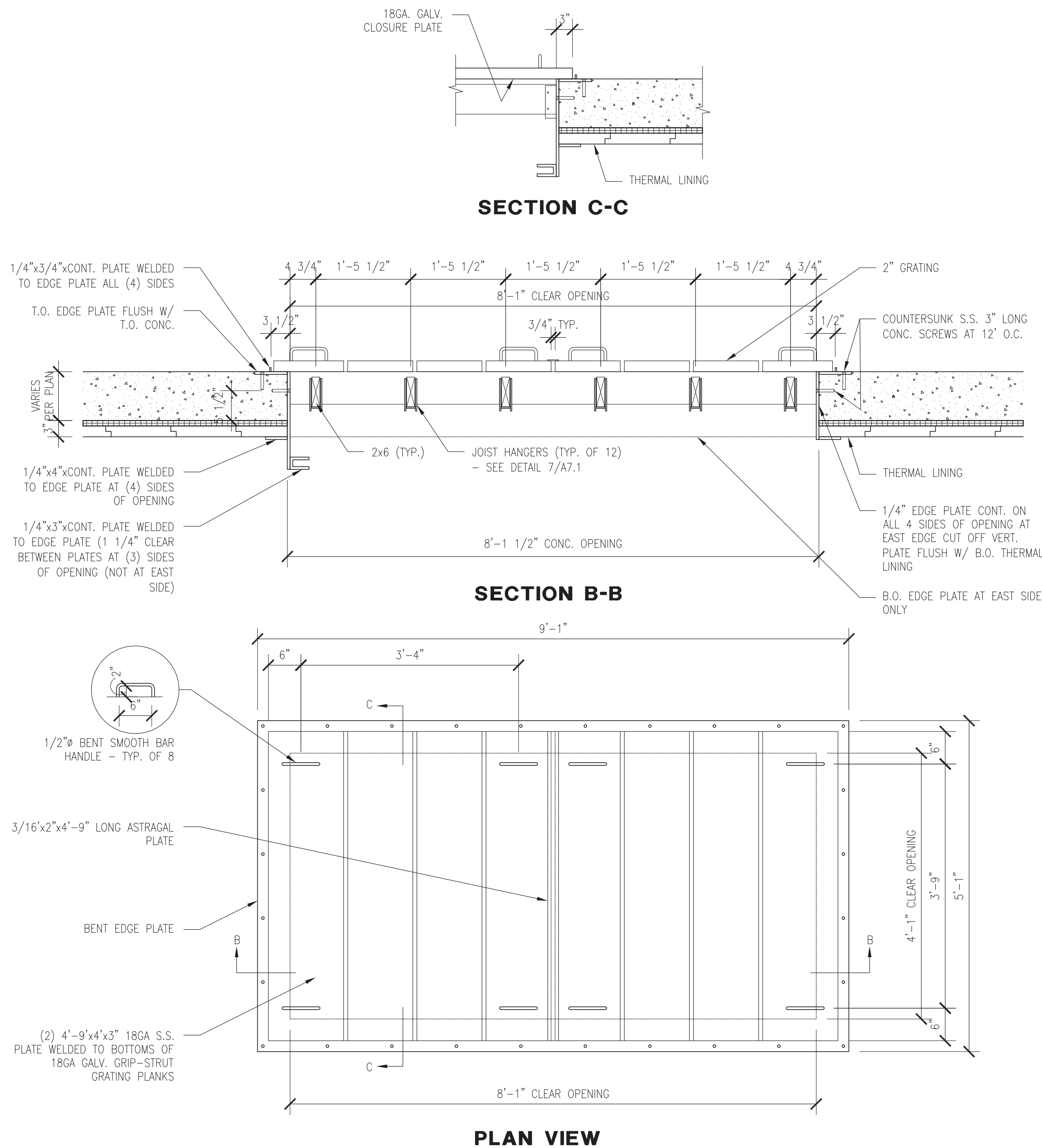


DRAWING

62

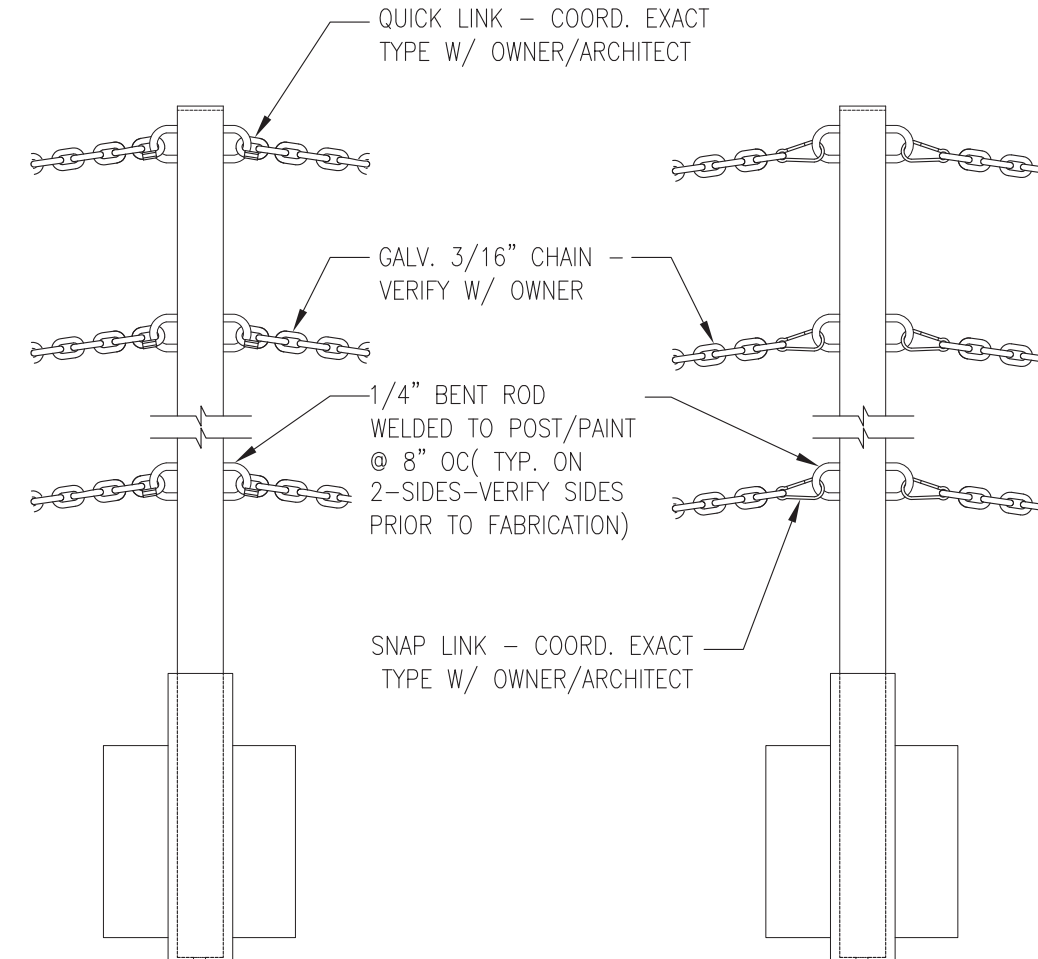
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2

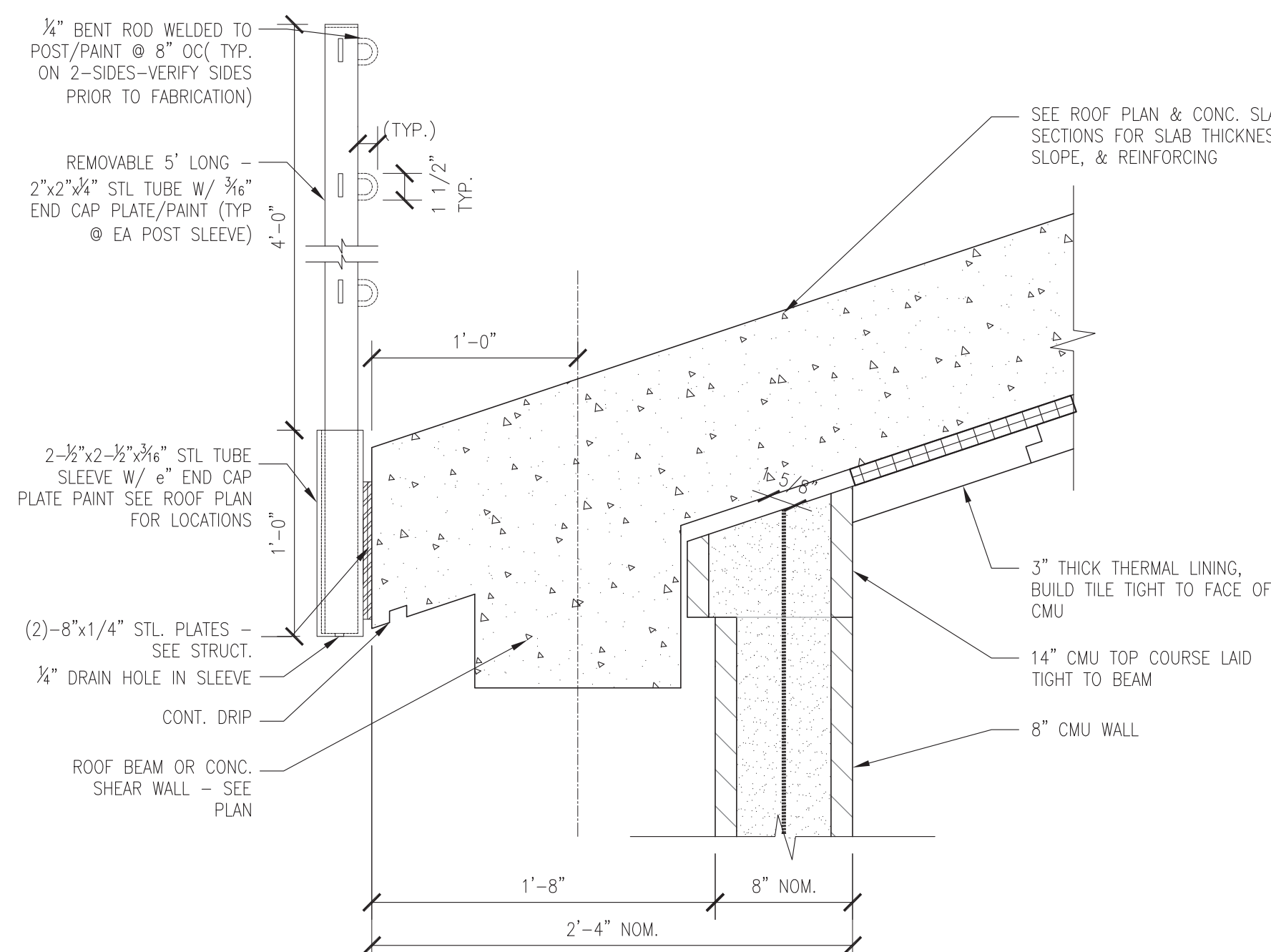


1 FLAT ROOF CHOPOUT DETAILS

SCALE: 3/4" = 1'-0"

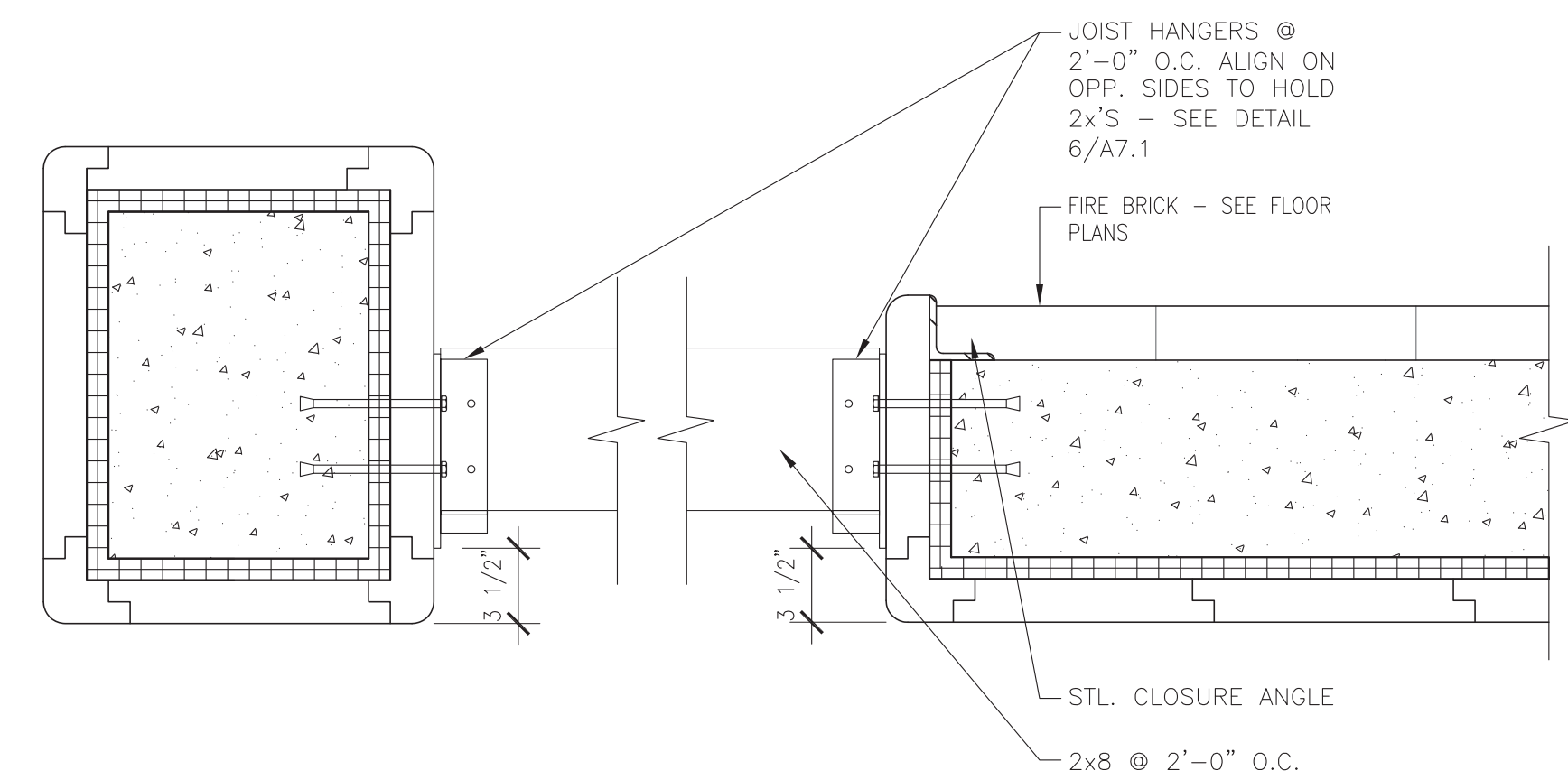


ELEVATION TYPICAL



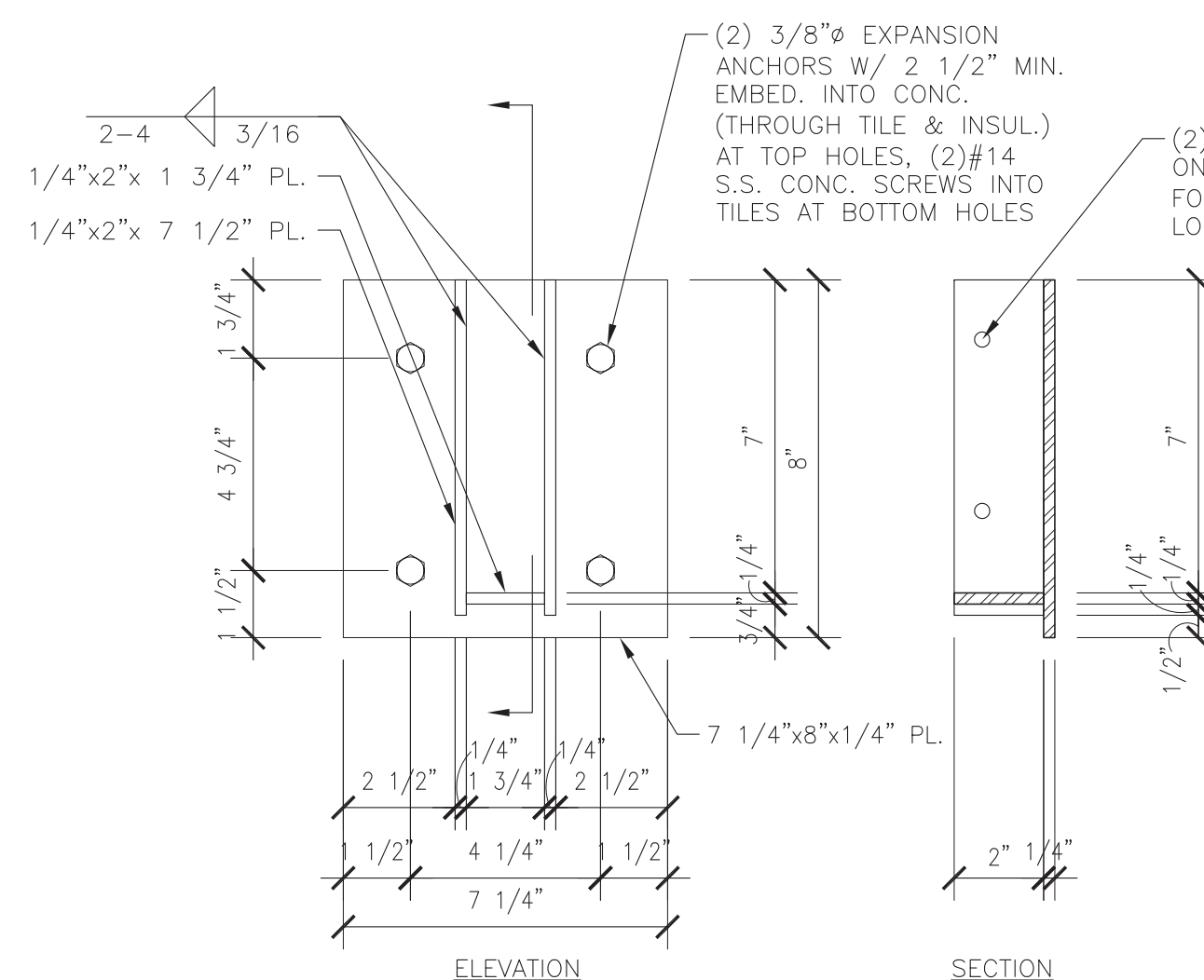
2 EAVE DETAIL @ ROOF/SAFETY RAIL SYSTEM

SCALE: 1 1/2" = 1'-0"



5 SECTION - FALSE CEILING IN "GARAGE"

SCALE: 1 1/2" = 1'-0"



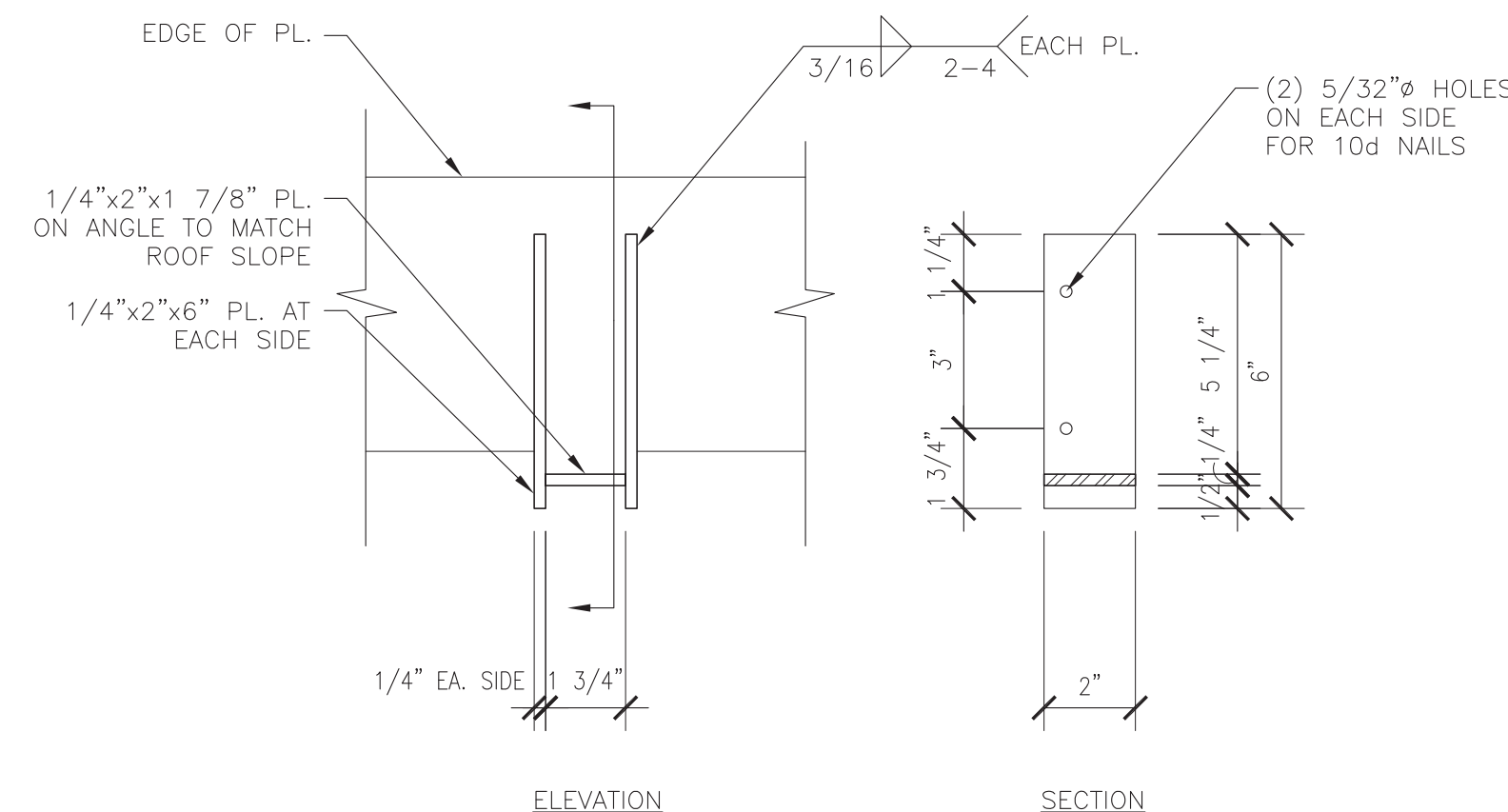
NOTES:

1. ALL PIECES IN THIS DETAIL SHALL BE S.S.

2. THIS HANGER HAS BEEN DESIGNED TO ACCOMMODATE A 2x8

6 JOIST HANGERS

SCALE: 3" = 1'-0"



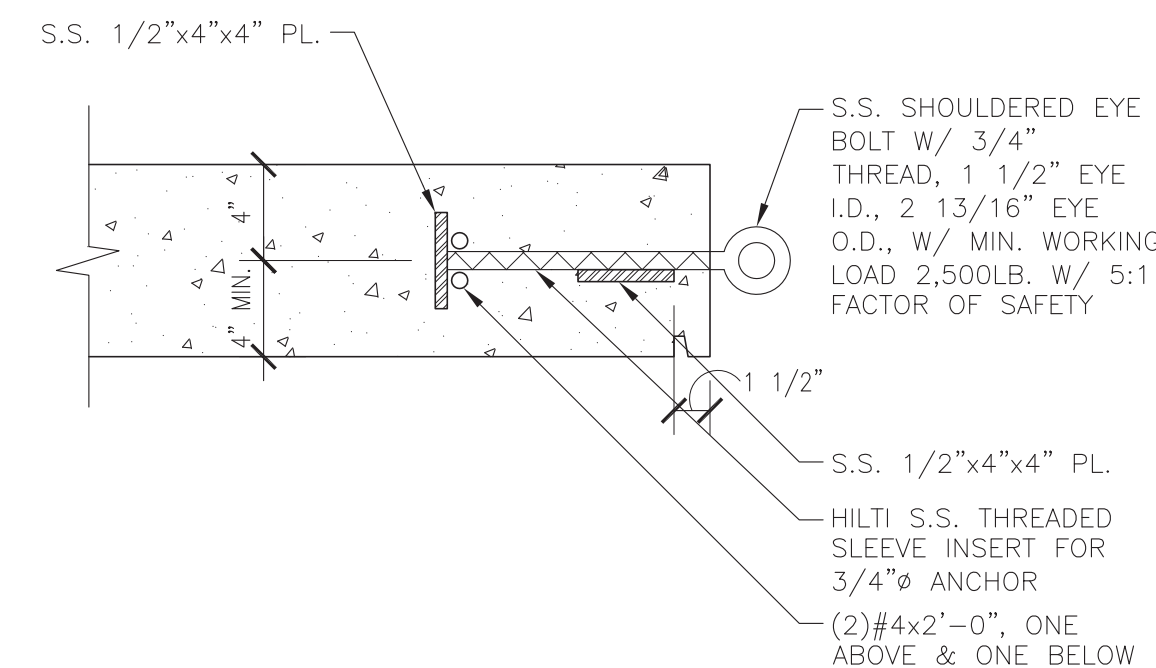
NOTES:

1. ALL PIECES IN THIS DETAIL SHALL BE GALV.

2. THIS HANGER HAS BEEN DESIGNED TO ACCOMMODATE A 2x6

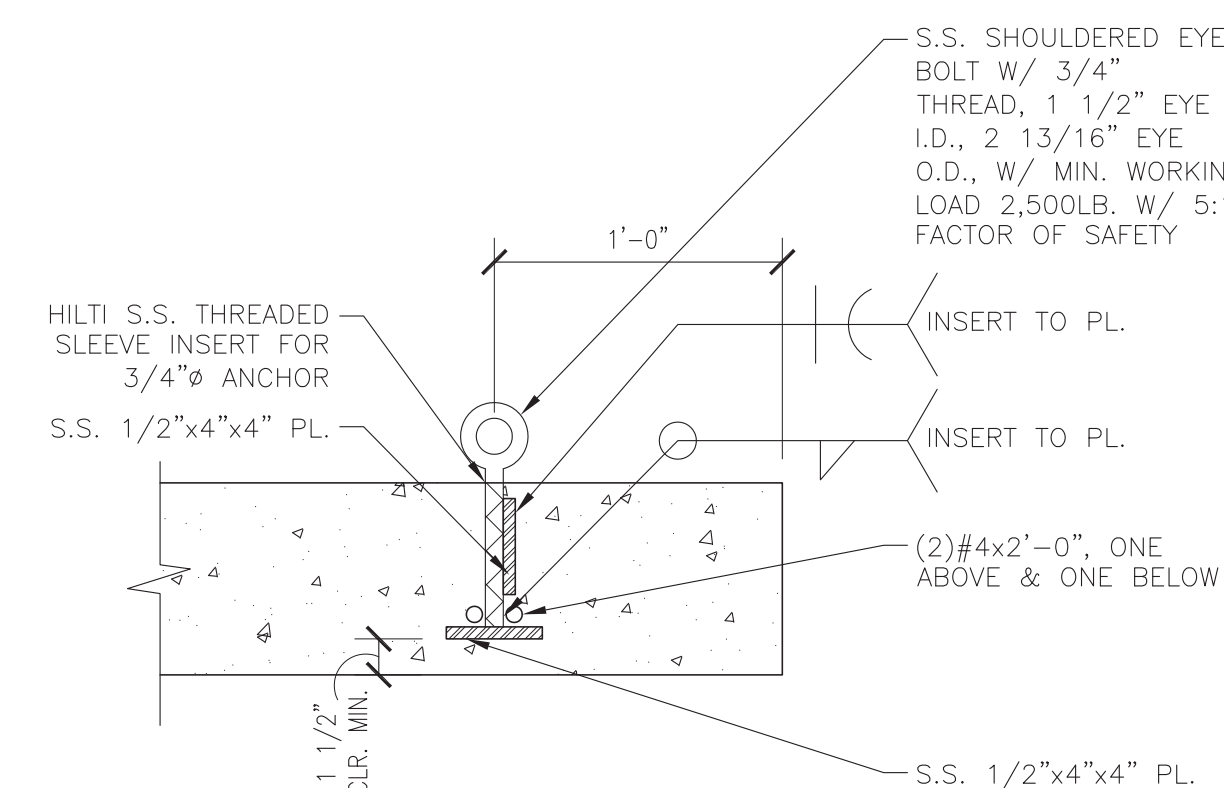
7 JOIST HANGERS

SCALE: 3" = 1'-0"



3 ROPE ANCHOR AT FACE OF SLAB

SCALE: 1 1/2" = 1'-0"



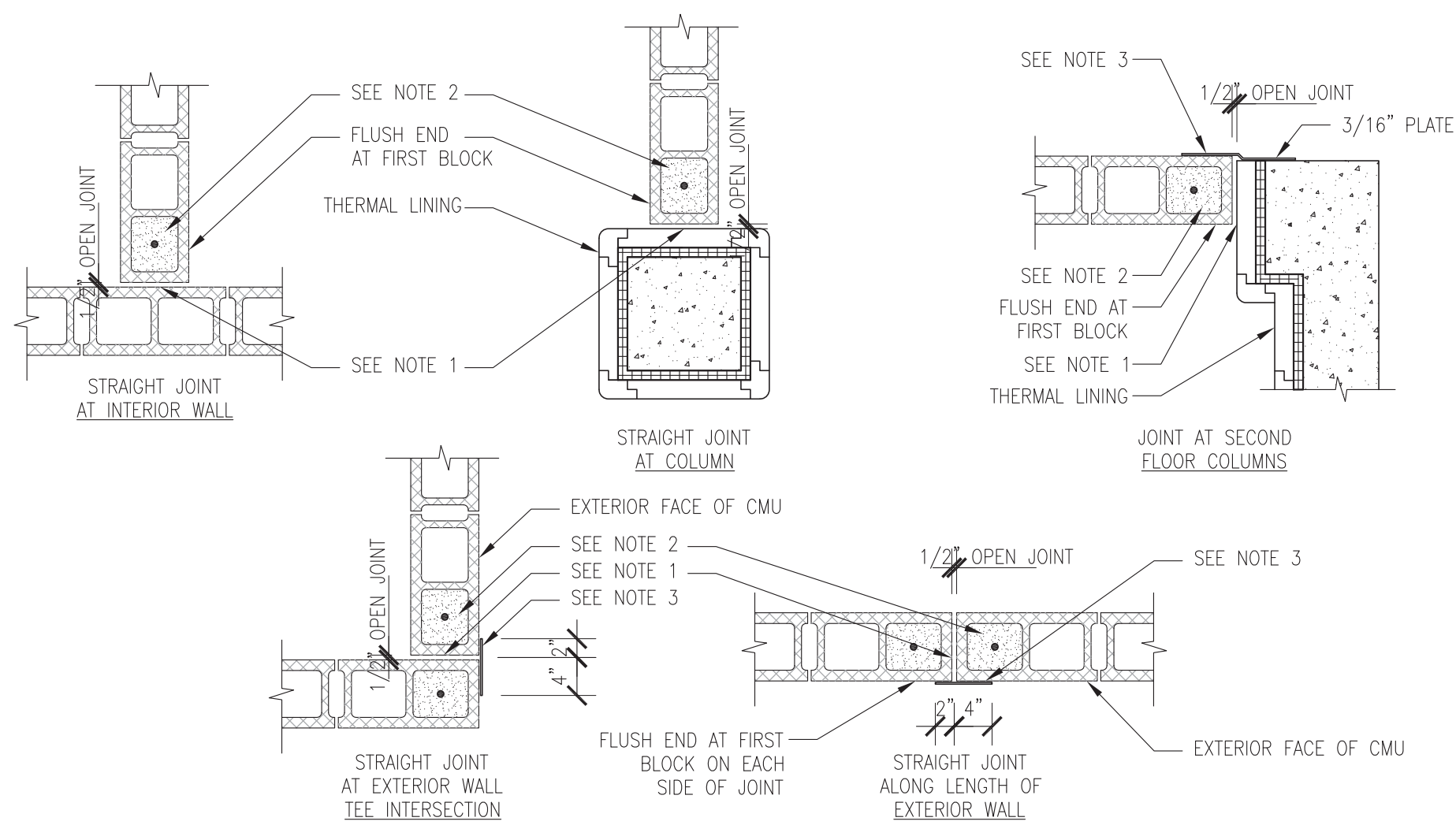
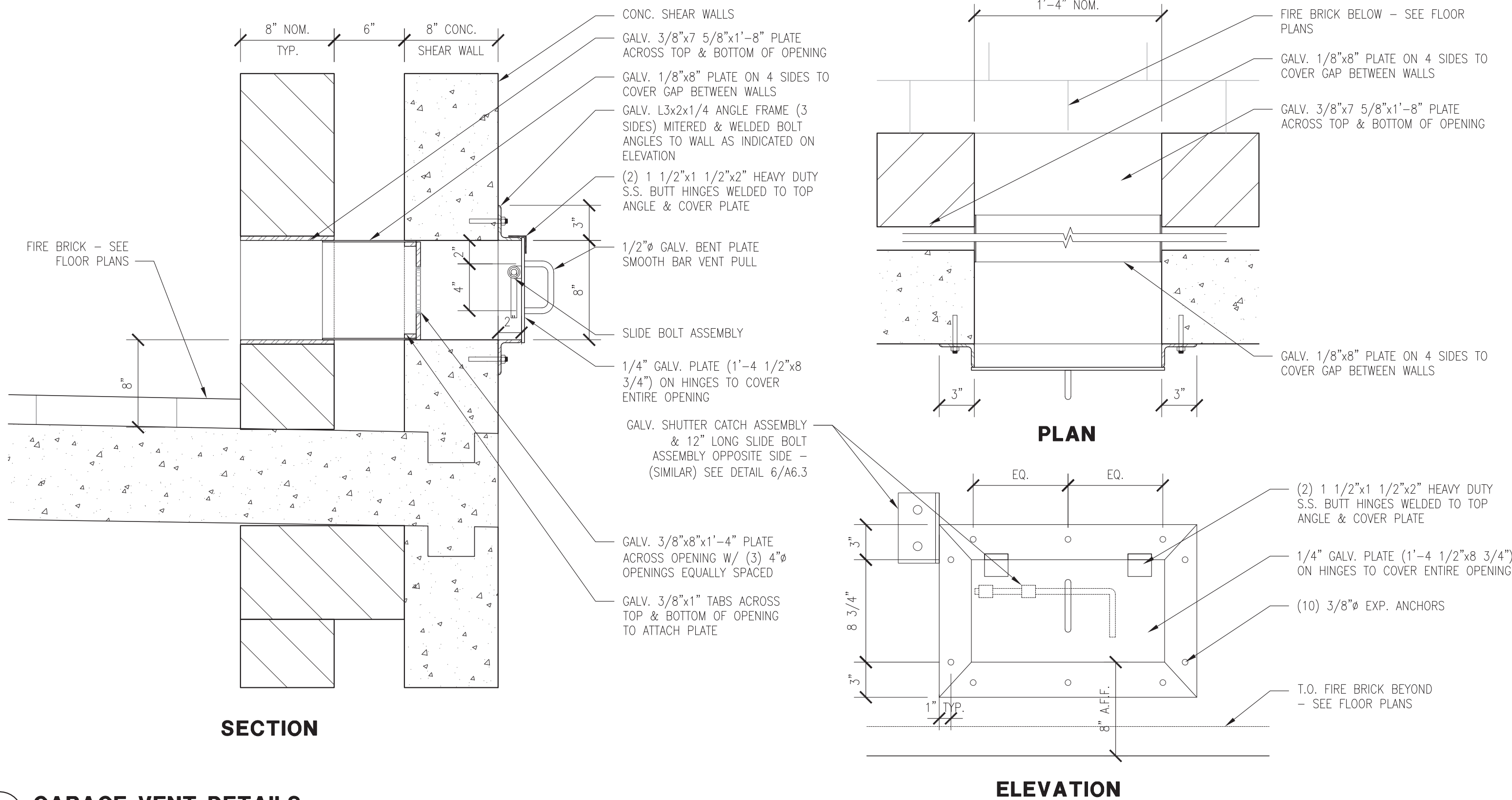
4 ROPE ANCHOR AT TOP OF SLAB

SCALE: 1 1/2" = 1'-0"

NOTE:
ALL EXPOSED STEEL TO BE HOT-DIP GALVANIZED (HDG)

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<p>EXPIRES 09/30/17</p> <p>DRAWN BY: SC</p> <p>ARCHITECT/ENGINEER: LE</p> <p>APPROVED BY: LE/RJ</p> <p>ACTIVITY: _____</p> <p>PROJ. NO.: CP0096</p>	<p>3260 N. 40TH STREET MESA, ARIZONA</p> <p>SHEET 17 OF 39</p> <p>CATALOG NUMBER: A183396</p>



- NOTES**
- FORM JOINT WITH 1/2" PLYWOOD OR COMPRESSIBLE STYROFOAM. STRIP PRIOR TO FIRST BURN.
 - REINFORCE & GROUT FIRST CELL SOLID FULL HEIGHT ON EACH SIDE OF JOINT.
 - AT EXTERIOR WALL JOINTS, PROVIDE S.S. 3/16"x6" PLATE TO COVER JOINT FOR FULL HEIGHT OF WALL. PROVIDE #14x1 3/4" LONG S.S. CRETE-FLEX SS4 MASONRY FASTENERS, #MF330, WITH HEX WASHER HEAD & OVERSIZED S.S. WASHER AT 2'-0" O.C. MAX. IN 5/16"x1 1/2" VERTICAL SLOTTED HOLES (MIN. 5 PER PLATE). FOR TWO TOP FASTENERS, PLACE FASTENER AT BOTTOM OF SLOT. FOR ALL OTHER FASTENERS, PLACE FASTENER IN THE MIDDLE OF SLOT. INSTALL FASTENERS UNTIL THEY ARE SNUG, BUT NOT OVER-TIGHTENED.

2 PLAN DETAILS - OPEN WALL JOINTS

SCALE: 3/4" = 1'-0"

NOTE:
ALL EXPOSED STEEL TO BE HOT-DIP GALVANIZED (HDG)

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 mesa-az	 LEA - Architects, LLC 1730 EAST NORTHERN AVE. PHOENIX, ARIZONA <small>THIS DRAWING/DRAWINGS IS AN INSTRUMENT OF SERVICE. IT REMAINS THE PROPERTY OF LAWRENCE ENYART, ARCHITECT. IT MAY NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART WITHOUT THE EXPRESSED WRITTEN PERMISSION OF LAWRENCE ENYART, ARCHITECT. IT MAY ONLY BE USED FOR THE ORIGINAL PURPOSE INTENDED. ALL RIGHTS RESERVED. © Copyright 2016, LEA - Architects</small>
	CITY OF MESA ENGINEERING DEPARTMENT MESA PUBLIC SAFETY TRAINING FACILITY BURN FACILITY EXPANSION
EXPIRES 09/30/17 DRAWN BY: SC ARCHITECT/ENGINEER: LE APPROVED BY: LE/RJ	GARAGE VENTS/ OPEN WALL JOINTS DRAWING A7.3
ACTIVITY: _____ PROJ. NO.: CP0096	3260 N. 40TH STREET SHEET 19 OF 39 MESA, ARIZONA CATALOG NUMBER: A183398

STRUCTURAL NOTES

(APPLY UNLESS NOTED OTHERWISE ON DRAWINGS)

CODE

1. Comply with 2006 International Building Code with City of Mesa Amendments.

DESIGN LOADS (General Case)

1. Dead Loads:
- a. High Roof: 119 psf (avg.) + 25 psf for thermal linings
 - b. Low Roof: 150 psf (avg.) + 25 psf for thermal linings
 - c. Second Floor: 119 psf (avg.) + 60 psf for CMU walls + 25 psf for thermal linings + 27 psf for fire bricks.
 - d. Mechanical Equipment & Piping: See plans
2. Live Loads:
- a. High Roof: 50 psf
 - b. Low Roof: 50 psf
 - c. Second Floor: 110 psf (50 psf + 1 ft. water approx.)
 - d. Stairs, Exit Corridors and Balconies: 100 psf
3. Lateral Loads:
- c. Wind: 90 MPH, 3 second gust, Exposure C, Risk Category II, Internal Pressure Coefficient = ±0.18
 - d. Seismic: I_e = 1.0, Risk Category II, S_s = .211, S_i = .067, Site Class C, S₀s = .169, S₀i = .076, Seismic Design Category B, Basic seismic-force-resisting system(s): Ordinary Reinforced Concrete Shearwalls, Design base shear: 49.6k for 2 story area; 12.5k for one story area, C_s = .05, R = 4

FOUNDATIONS

1. Soil report by Ricker, Atkinson, McBee, Morman & Associates, Inc. dated 4/8/2015, Project No. G22168.
2. Bear footings on firm, undisturbed site soils and/or compacted soil at 2.0 feet minimum below lowest adjacent finish grade. Finished grade is defined as lowest adjacent finished grade within 5'-0" of the perimeter of the building and top of floor slab for interior footings. See Detail 14/S1 for compaction and fill requirements.
3. Place foundation concrete only on clean, firm, inspected bearing material. All footing excavations must be inspected by a qualified geotechnical engineer to insure proper foundation bearing.
4. Allowable soil bearing pressures:
- a. Footings on firm undisturbed or compacted soil: 2500 psf
5. Refer to soils report for site grading, subgrade soil preparation, and fill and compaction requirements.
6. Foundations are designed for dry conditions and must remain dry during construction.

CONCRETE

1. Concrete quality: Conform to ACI 301.
2. Concrete regular weight (144 pcf) with Type II cement per ASTM C150, aggregate per ASTM C33, and potable water. Replace cement with fly-ash at a rate of 15% to 20% by weight of the total cementitious materials. Fly-ash shall conform to ASTM C618, Type F.
3. Aggregate size: 1" minimum (Size Nos. 5, 56 or 57) for footings, and other mass concrete and 3/4" minimum (Size No. 57) for other concrete.
4. Minimum 28-day compressive strength:
- a. Foundations: 3000 psi
 - b. Slabs on Grade: 3000 psi; high range water reducers (superplasticizers) required for slabs on grade.
 - c. Walls: 4000 psi
 - d. Columns: 4000 psi
 - e. Suspended Slabs & Beams: 4000 psi
 - f. Sidewalks, Curbs & Gutters: 2500 psi
 - g. Not specified above: 4000 psi
5. Maximum slump: 4-1/2" before high range water reducers (superplasticizers) are added. Maximum water-cement ratio: 0.45.
6. Mechanically vibrate all concrete, except that slabs-on-grade need be vibrated only around items embedded in the slab. Revibrate tops of columns. Form vibrators not allowed.
7. No admixtures without approval. Admixtures containing chlorides shall not be used. Concrete shall not be in contact with aluminum.
8. Do not cast walls or grade beams in lengths over 60'-0".
9. Wait 48 hours between adjacent concrete castings.
10. Cast slabs-on-grade with construction and control joints as shown on the plans.
11. Use roller tamp or vibrating screed for slabs. Hand tamping not allowed.
12. Cure concrete members with polyethylene for 5 days or with a curing and sealing compound per ASTM C1315 approved by the Architect. Apply 2 coats at right angles to each other.
13. Cold Weather Concreting: When the air temperature is below 50° for more than one half of any 24-hour period for three consecutive days, the requirements of ACI 306 (latest edition), Cold Weather Concreting practices shall apply. Concrete shall be protected from freezing until the concrete reaches 3500 PSI minimum compressive strength.
14. Hot Weather Concreting: Hot weather shall be any combination of high air temperature, low relative humidity and wind velocity resulting in evaporation rates which will impair the quality of fresh or hardened concrete. From March 1 through October 30 of each year (minimum), the requirements of ACI 305 (latest edition) Hot Weather Concreting shall apply. Limit the rate of evaporation to a maximum of 0.2 pounds per square foot per hour with the use of wind barriers, shade, foggers and concrete temperature. Evaporation retarder shall be used during the finishing process on all slabs.
15. Camber up all beams and slabs L/500 (in inches) at mid-span. Camber up all cantilevers L/300 (in inches) at end of cantilever.
16. Submit mix designs for review.
17. At the bottom of columns, before placing fresh concrete over hardened concrete, place a cement/sand slurry in the forms to a depth of 1-1/2". Slurry to be 1 part cement to 2 parts sand.
18. Do not place pipes, conduits, ducts, reglets, or chases in structural concrete without approval of the Structural Engineer through the Architect. See Architectural, Mechanical, and Electrical Drawings for locations.
19. Maximum free drop of any concrete 6'-0".
20. Non-shrink grout shall be non-metallic with a minimum compressive strength of 4000 psi in 3 days, mixed and installed in accordance with the manufacturer's recommendations. Non-shrink grout to be installed under beams and columns before loading members.

SHORING & RE-SHORING OF SUSPENDED CONCRETE SLAB

1. ACI Standard 347, latest edition, "Recommended Practice for Concrete Formwork" applies.
2. Shoring below the slab may be removed and replaced with re-shoring when the concrete in the slab has attained a minimum strength of 3000 psi. Regardless of the concrete strength in the supported slab, allow a minimum of 7 days after the slab pour before removing the shores for re-shoring.
3. All re-shoring operations shall follow immediately behind the removal of shores. Each re-shore shall be wedged tight and shall be load bearing.
4. Maximum spacing of re-shores shall be 5'-0" o.c. until the supported concrete slab has reached design strength and a minimum of 28 days.
5. Excessive load concentrations from stacked material, equipment, etc. shall be avoided.
6. Contractor may provide additional shoring at his option.
7. Responsibility for adequacy of shoring rests with the Contractor.

REINFORCING

1. ASTM A615, Grade 60, except as follow:
- a. #2 and #3 bars ASTM A615: Grade 40.
 - b. Beam and Girder Stirrups and Column Ties: ASTM A615, Grade 40.
 - c. Welded Plain Wire Fabric: ASTM A185.
 - d. Field bent and/or welded bars: ASTM A706.
2. Reinforcing bars deformed except #2 bars and welded plain wire fabric.
3. Concrete coverage for reinforcing bars (to face of bar including stirrups and ties) except as shown or noted:
- a. Unformed concrete in contact with earth: 3"
 - b. Formed concrete in contact with earth: 2"
 - c. Wall exterior face: 3"
 - d. Wall interior face: 3"
 - e. Suspended Slabs: 1 1/2" to bottom bars; 2" to top bars.
 - f. Beams, girders and columns: 1-5/8" to ties; 2" to vertical bars.
4. Lap splices in concrete: 36 bar diameters u.n.o. on plans.
- a. Except as otherwise shown or noted, in beams and slabs not on grade, splice bottom bars over supports and top bars at mid-span only.
 - b. Minimum 36 bar diameters. Stagger all splice locations 1 lap length minimum. See details for variation from minimum.
 - c. Welded wire fabric splices: Mesh spacing + 2".
5. Lap splices in masonry: 45 bar diameters u.n.o. on plans.
6. Splice reinforcing only at approved locations.
7. Reinforcing spacings given are maximum on center and all reinforcing is continuous unless otherwise noted.
8. Provide bent corner reinforcing to match and lap with horizontal reinforcing at corners and intersections of walls, beams and footings per A.C.I. Detailing Manual (SP-66).
9. Dowel all vertical reinforcing to foundations.
10. Securely tie all reinforcing and embedded items in position before placing concrete or grout.
11. Submit placing drawings per A.C.I. Detailing Manual (SP-66). Fabricate after Architect's review. Include elevations showing reinforcing steel at all concrete and masonry walls and footings.
12. Weld reinforcing bars in conformance with AWS D1.4-98. Use low hydrogen electrodes.
13. Place reinforcing per ACI 318-05 and C.R.S.I. Standards.

MASONRY

1. Hollow concrete block units: Grade N, Type 1, 1900 psi minimum compressive strength based on minimum net area. Wall design strength, F_m = 1500 psi. See "SPECIAL INSPECTION" section for masonry wall testing requirements.
2. Masonry construction requirements for hot and cold weather construction shall conform to "Specification for Masonry Structures" (ACI 530.1-05).
3. Lay units in running bond. Corners shall have a standard bond by overlapping units.
4. Mortar: Type S, 1800 psi minimum 28-day compressive strength.
5. Grout: 2000 psi minimum 28-day compressive strength. Mechanically vibrate grout immediately after pouring. Puddling or rodding not allowed. Submit mix design for review. A maximum of 18% by weight of the total cementitious materials may be replaced by fly-ash, provided the fly-ash conforms to ASTM C618, Type F.
6. Maximum grout lift without cleanouts 5'-0" in block walls.
7. The vertical reinforcing at each end and at 8'-0" maximum vertical spacing using single wire and loop type ties as manufactured by A.A. Wire Products Company or approved equal.
8. See Architectural Drawings for expansion and control joints. Locate at 24'-0" maximum but not less than 2'-0" from a bearing plate or jamb of an opening.
9. Grout stem walls solid.
10. In 8" walls provide vertical reinforcing in center of grout, at center of wall, continuous full height of wall as follows:
- a. For reinforcing at corners, intersections, wall ends, jambs and each side of expansion or control joints, see Detail 8/S5.
 - b. 1 - #4 at 32" o.c. typical vertical reinforcing.
13. Provide 1 - #4 in 8" minimum deep continuous grouted bond beams at all floor and roof lines and 1 - #4 at top of all parapets.
14. See details for bond beams at floor and roof lines and other locations.
15. Stagger bond beam splices a minimum of 24".
16. Provide continuous wire lath or plastic mesh grout barriers below bond beams.
17. Provide ladder type #9 gage continuous joint reinforcing at 16" vertical spacing in walls.
18. See Detail 7/S8 for lintels.
19. Wet masonry walls thoroughly for three consecutive days immediately after placement. Omit wetting of masonry walls if temperatures will be below 38 degrees during the next 24 hours.
20. All embedded anchor bolts, headed studs or strap anchors shall be grouted in place with a minimum of 4" of grout in the cell above and below the anchor with 1" grout all around bolt at face shell. See Detail 18/S5 for anchor embedments.
21. No expansion bolts will be allowed in masonry walls.

GRATING

1. Grating shall be McNichols Co. GRIP STRUT, Heavy-Duty 1 1/2" deep x 12 gauge, 5-Diamond Plank (11 3/4" width).
2. Grating shall be galvanized.
3. Floor grating shall be anchored to supporting members with galvanized steel saddle clips supplied by grating manufacturer bolted to fully welded galvanized headed studs.
4. Stair treads shall be McNichols Co. GRIP STRUT, 2" deep x 14 gauge, 5-Diamond Plank x 11 3/4" wide galvanized treads with standard nosing. Attach treads to channel stringers with 2 - 3/8"φ galvanized thru-bolts at each end of tread.

STRUCTURAL STEEL, BOLTS & WELDS

1. Latest AISC and AWS Codes and Handbooks apply.
2. Rolled wide flange sections: ASTM A992, Grade 50, F_y = 50 ksi minimum.
3. Plates, bars, angles and channels: ASTM A36, F_y = 36 ksi except for moment frame connections use ASTM A572, Grade 50.
4. Pipes: ASTM A53, Grade B, F_y = 35 ksi minimum.
5. Structural Tubes: ASTM A500, Grade B, F_y = 46 ksi.
6. Bolts: ASTM A307, except where high strength bolts are specifically noted on drawings.
7. Anchor bolts (straight, bent or headed): ASTM F1554 Standard Specification for Anchor Bolts, Grade 36.
8. High strength bolts: ASTM A325N. Use "snug-tightening" only.
9. Welding rods: E-70 Series low hydrogen (i.e. only 7018 or 7028 electrodes). Do not use "Jet" welding rods (E7024) for any structural welding.
10. All stud anchors shall be fully welded, headed studs.
11. Accurately saw or finish column ends to a true plane.
12. At beam-to-beam or beam-to-column connections, where connection details are not provided, use AISC (ASD) Table II with a maximum number of 3/4" diameter A307 bolts for beam size shown, or equivalent Table III or IV connections.
13. Minimum connections to be 2 - 3/4" diameter A307 bolts or 3/16" fillet weld 4" long using 1/4" connection material detailed to minimize bending in connection.
14. All bolt holes through steel members shall be drilled or punched. Torch cut or "burned" holes are not allowed.
15. Comply with American Welding Society Codes and Standards. All welders shall hold valid certificates and have current experience in the type of weld called for. Certificates shall be those issued by an accepted testing agency authorized by AWS.
16. Steel surfaces to be welded shall be thoroughly cleaned of all foreign matter including paint for at least 2 inches from the root of the weld.
17. Ultrasonically test all complete joint penetration (C.J.P.) welds.
18. Welds indicated with a shop weld symbol may be made in the field with approval of the Structural Engineer through the Architect.
19. Minimum embedment of bolts and anchors in masonry, grout or concrete. See Detail 18/S5.
20. Submit shop drawings. Fabricate after Architect's review.
21. All structural shop welding shall be done in a city approved fabricator's shop, or be special inspected per IBC Section 1704.3.
22. All steel shall be hot dip galvanized.

SUPPLEMENTARY NOTES

1. Verify all dimensions and conditions prior to starting work. Notify the Architect of any discrepancies or inconsistencies.
2. Verify in field all existing conditions shown on drawings.
3. Establish and verify all openings and inserts for mechanical, electrical and plumbing with appropriate trades, drawings.
4. Provide all necessary temporary bracing, shoring, guying, or other means to avoid excessive stresses and to hold structural elements in place during construction.
5. Options are for the contractor's convenience. He shall be responsible for all changes necessary if he chooses an option and shall coordinate all details. The cost of additional design work necessitated by selection of an option shall be borne by the contractor. Options shall not delay construction schedule.
6. The cost of additional design work due to errors or omissions in construction shall be borne by the contractor.
7. Any engineering design provided by others and submitted for review shall bear the seal and signature of an Engineer registered in Arizona. If this engineering design requires special structural inspection, they shall be responsible for the inspection. Details on the Structural Drawings are typical. Verify all dimensions with the Architectural Drawings.
9. Dimensions on the Structural Drawings are exact with the exception of masonry and sawn lumber dimensions which are nominal.

SPECIAL INSPECTION

Special inspection is to be provided in addition to the inspections conducted by the Department of Building Safety and shall not be construed to relieve the Owner or his authorized agent from requesting the periodic and called inspections required by Section 109 of the International Building Code. The special inspector shall be approved by the City Building Official prior to starting work.

SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING WORK: (PER IBC SECTION 1704)

CONCRETE:
During the taking of test specimens and placing of reinforced concrete and pneumatically placed concrete.

REINFORCING STEEL:
During placing of reinforcing steel for all concrete required to have special inspection. This inspection may be done on a periodic basis in accordance with IBC Table 1704.4.

FIELD WELDING:
During all structural field welding, including welding of reinforcing steel. This inspection may be done on a periodic basis in accordance with IBC Section 1704.3.1.

EPOXY GROUTED ANCHORS:
During installation of epoxy grouted anchors.

DRYPACK & NON-SHRINK GROUT:
During placement of drypack and non-shrink grout. This inspection may be done on a periodic basis.

STRUCTURAL MASONRY: (Unit-strength tests)

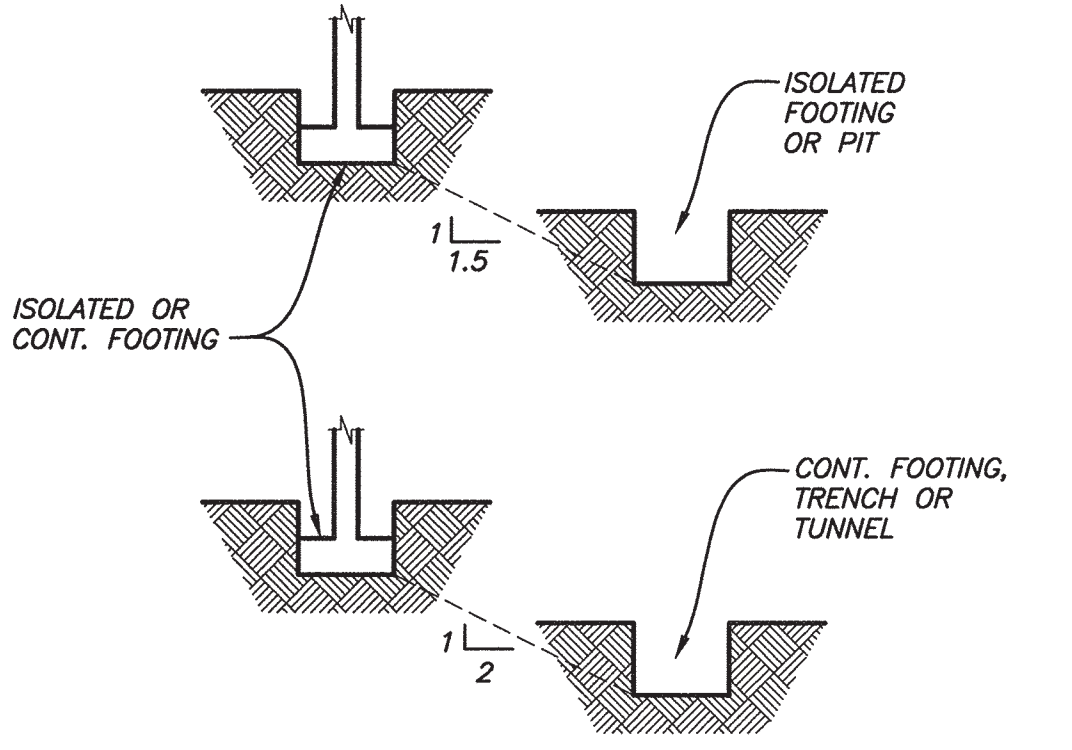
1. During sampling and placing of all masonry units, placement of reinforcement, inspection of grout space, immediately prior to closing of cleanouts and during all grouting operations.

2. Special inspection for the placing of the units shall be performed in accordance with IBC Section 1704.5 on a periodic basis.

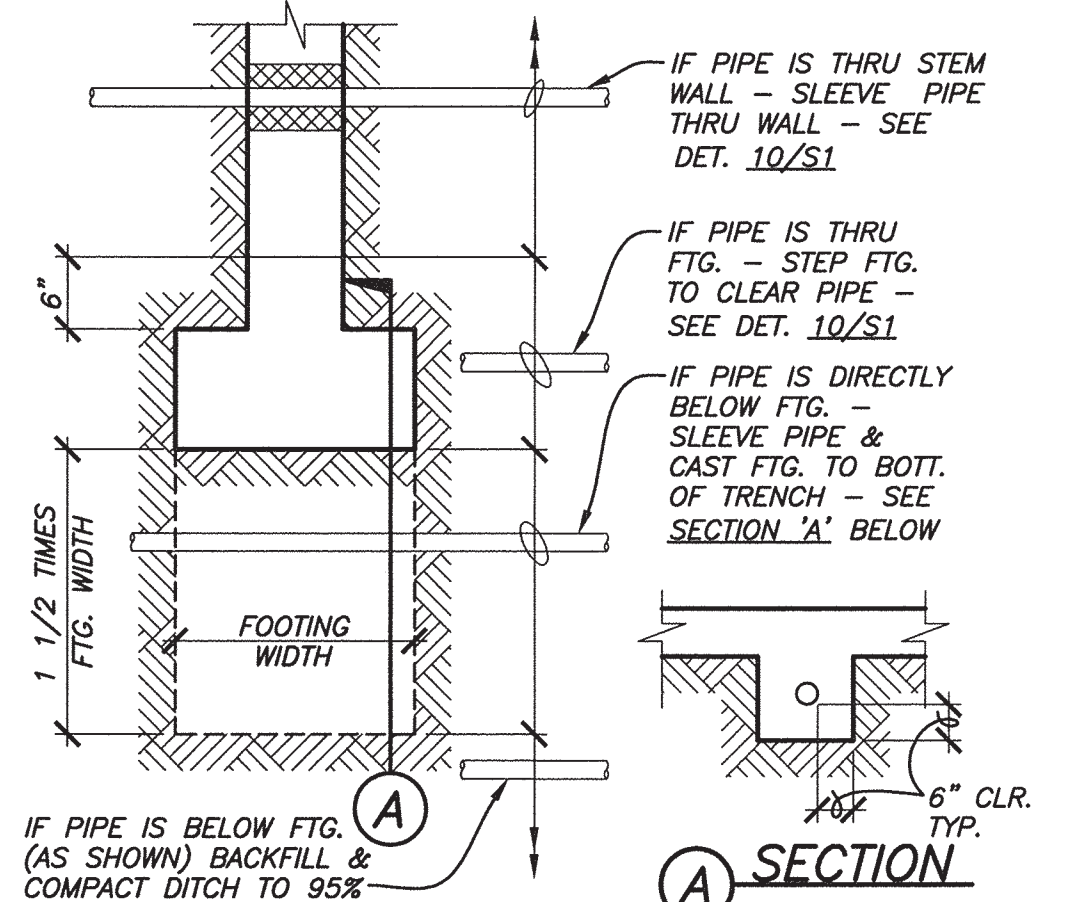
3. The specified compressive strength of masonry, F_m, shall be verified by the "Unit Strength Method" as required by IBC Section 2105.2.2.1.

- a. The block units shall be tested for compressive strength prior to construction for each 5,000 square feet of wall area.
- b. Separate grout and mortar testing is required for each 5,000 square feet of wall area. Mortar shall be tested in accordance with ASTM C780. Grout shall be tested in accordance with ASTM C1019.

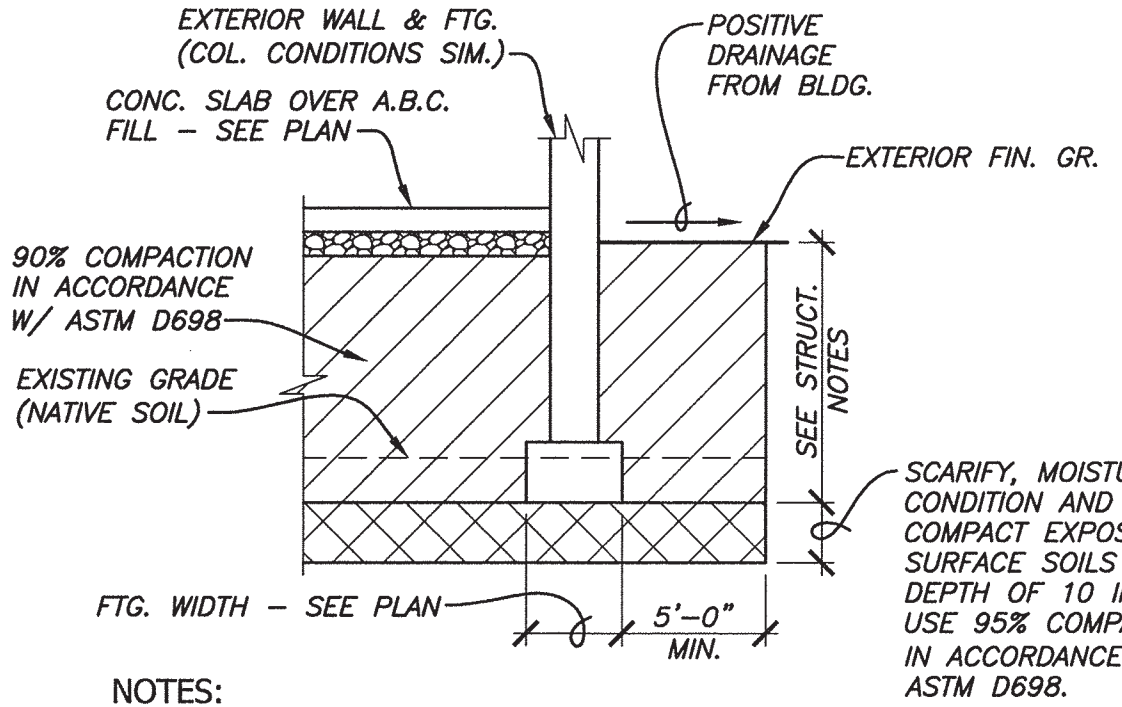
SITE GRADING, EXCAVATION AND FILLING:
During earthwork excavations, grading and filling operations inspection to satisfy requirements of Chapter 18 and Section 1704.7 of the International Building Code. A qualified geotechnical engineer shall be responsible for this special inspection.



4 MIN. SEPARATION OF EXCAVATION AND FOOTING 6/07 S2-100

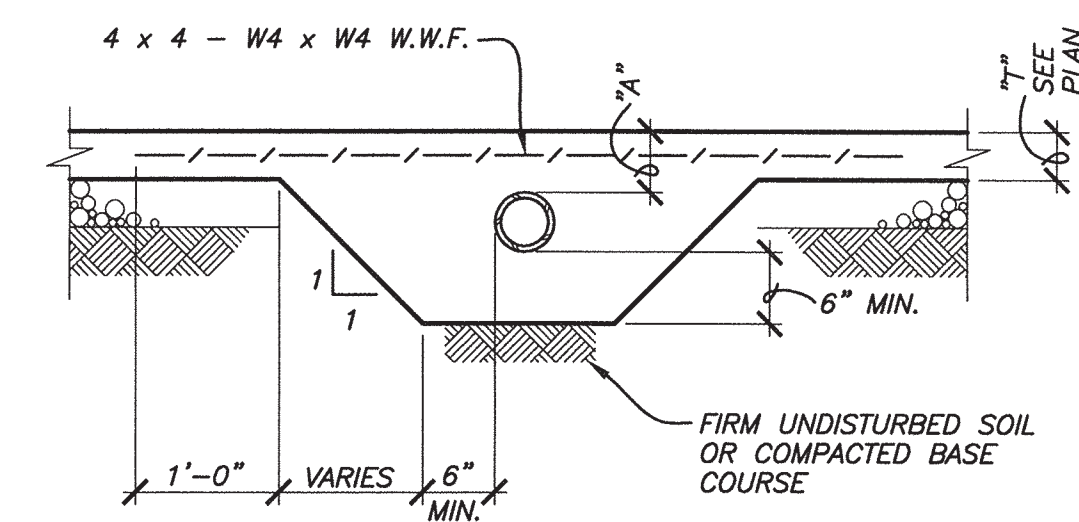


9 PIPE AT FOOTING 6/07 2-101



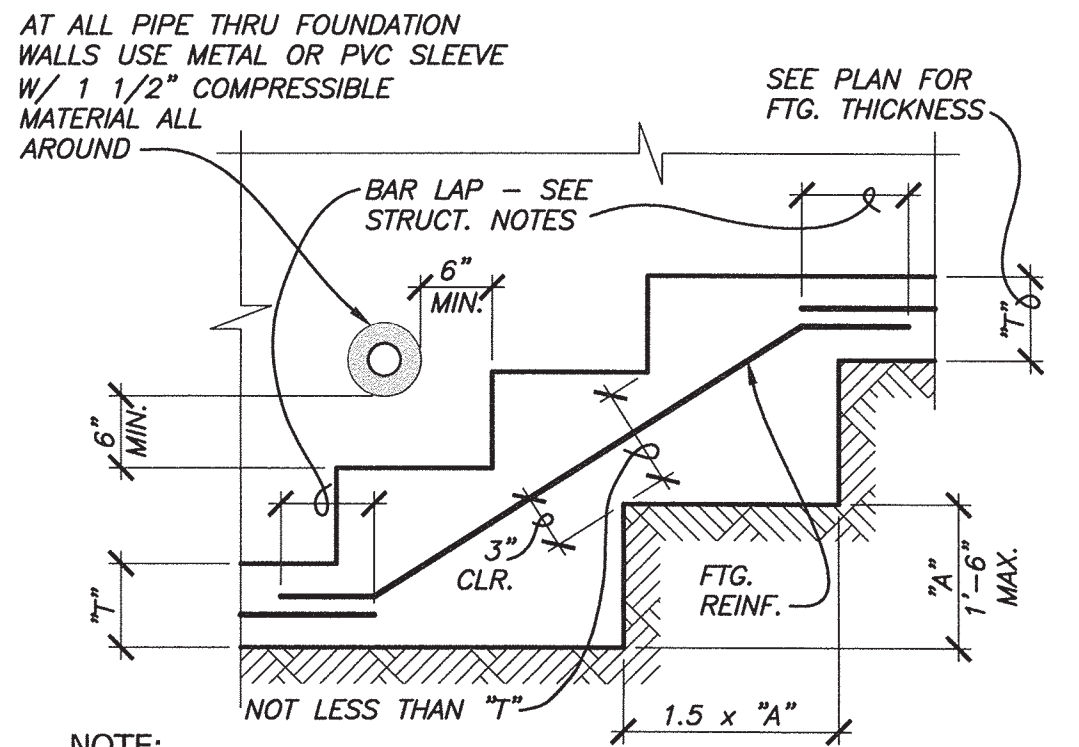
- NOTES:**
1. Site grading and subgrade soil preparation shall conform with recommendations as outlined in soils report.
 2. All site work shall be inspected by a qualified geotechnical engineer.
 3. If cemented soils are encountered, contact soils engineer for modification in compaction requirements.

14 SITE GRADING & SOIL PREPARATION 6/07 S2-103



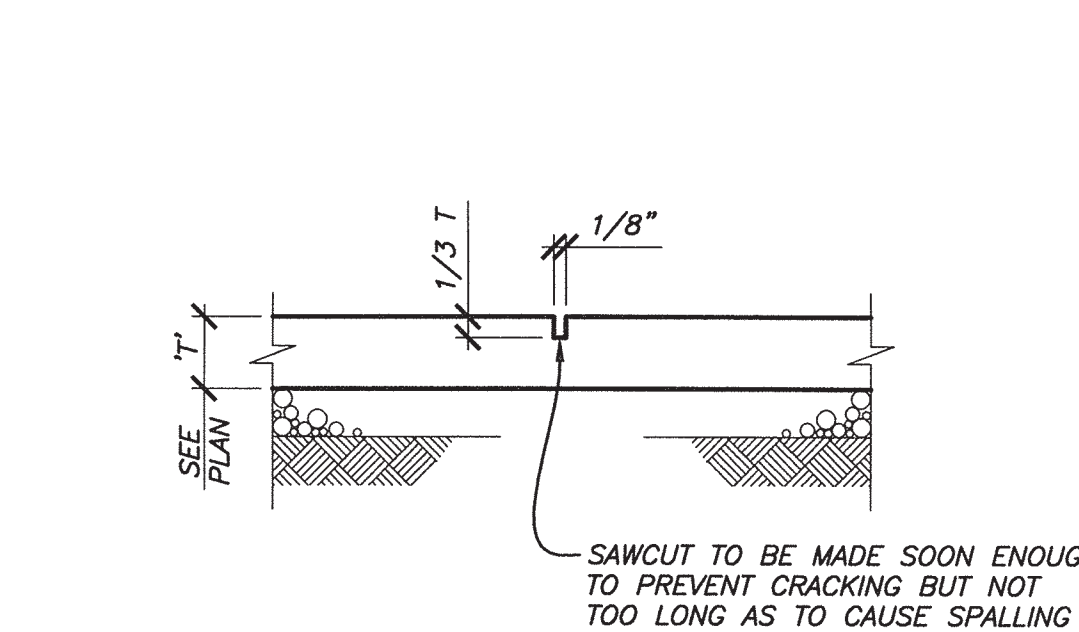
1. THIS DETAIL APPLIES ONLY IF PIPE IS SPECIFICALLY REQ'D. IN SLAB. DO NOT PLACE PIPE IN SLAB UNLESS REQ'D. OR APPROVED BY STRUCTURAL ENGINEER.
2. DIMENSION "A" TO BE EQUAL TO "T" OR 4" MIN. WHICHEVER IS GREATER.

5 PIPE IN SLAB ON GRADE



- NOTE:**
Use this detail to:
1. Change footing elevation.
 2. Lower footing for firm bearing.

10 STEP IN WALL FOOTING



15 SAWCUT JOINTS IN SLAB ON GRADE NO SCALE

ASI #01 2-24-16

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DRAWN BY: HLC
ARCHITECT/ENGINEER: MAS
APPROVED BY: REB

ACTIVITY: _____
PROJ. NO.: CP0096

CITY OF MESA
ENGINEERING DEPARTMENT

MESA PUBLIC SAFETY TRAINING FACILITY
BURN FACILITY EXPANSION

STRUCTURAL NOTES & DETAILS

3260 N. 40TH STREET MESA, ARIZONA

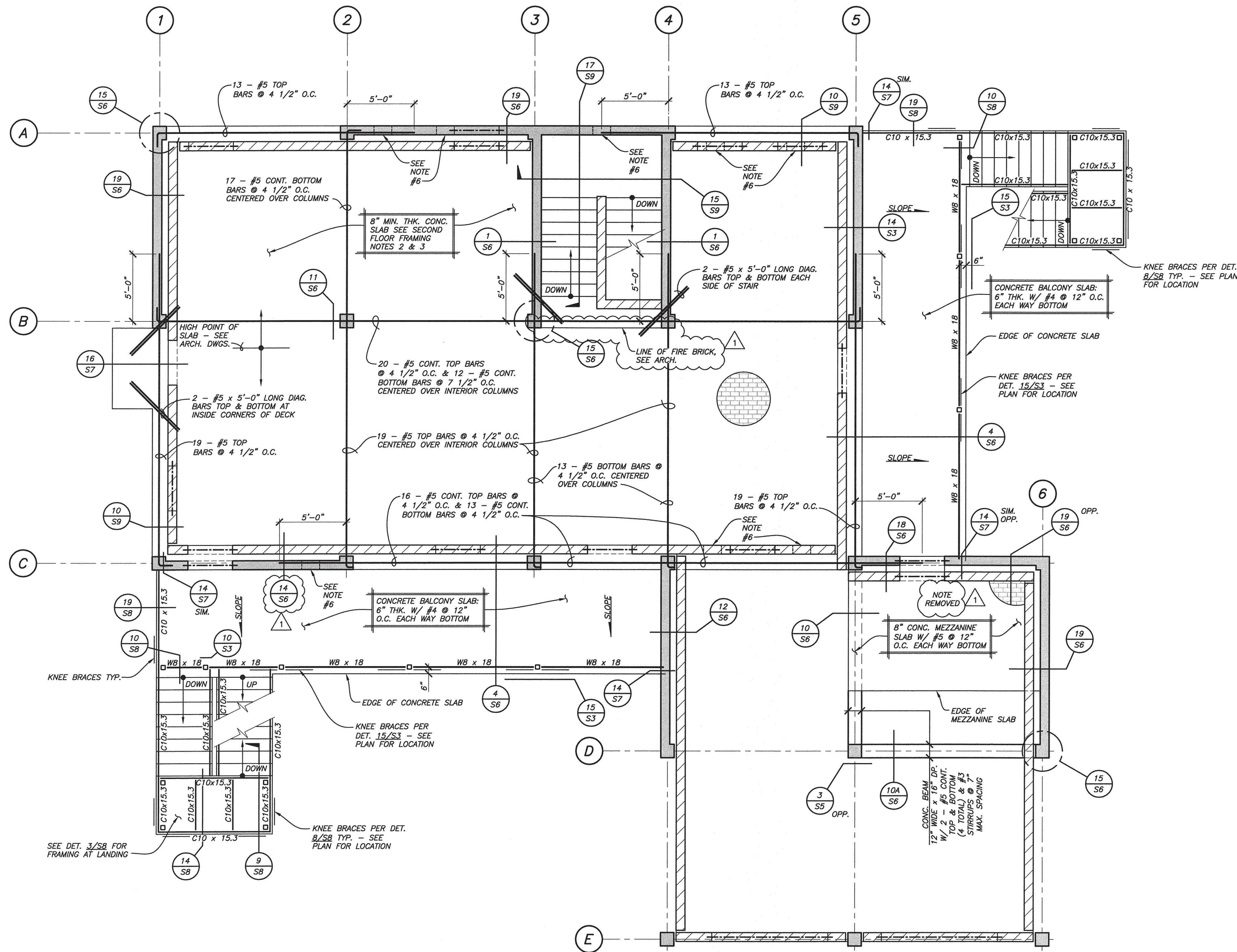
SHEET 24 OF 39

CATALOG NUMBER: A183403

DRAWING S1

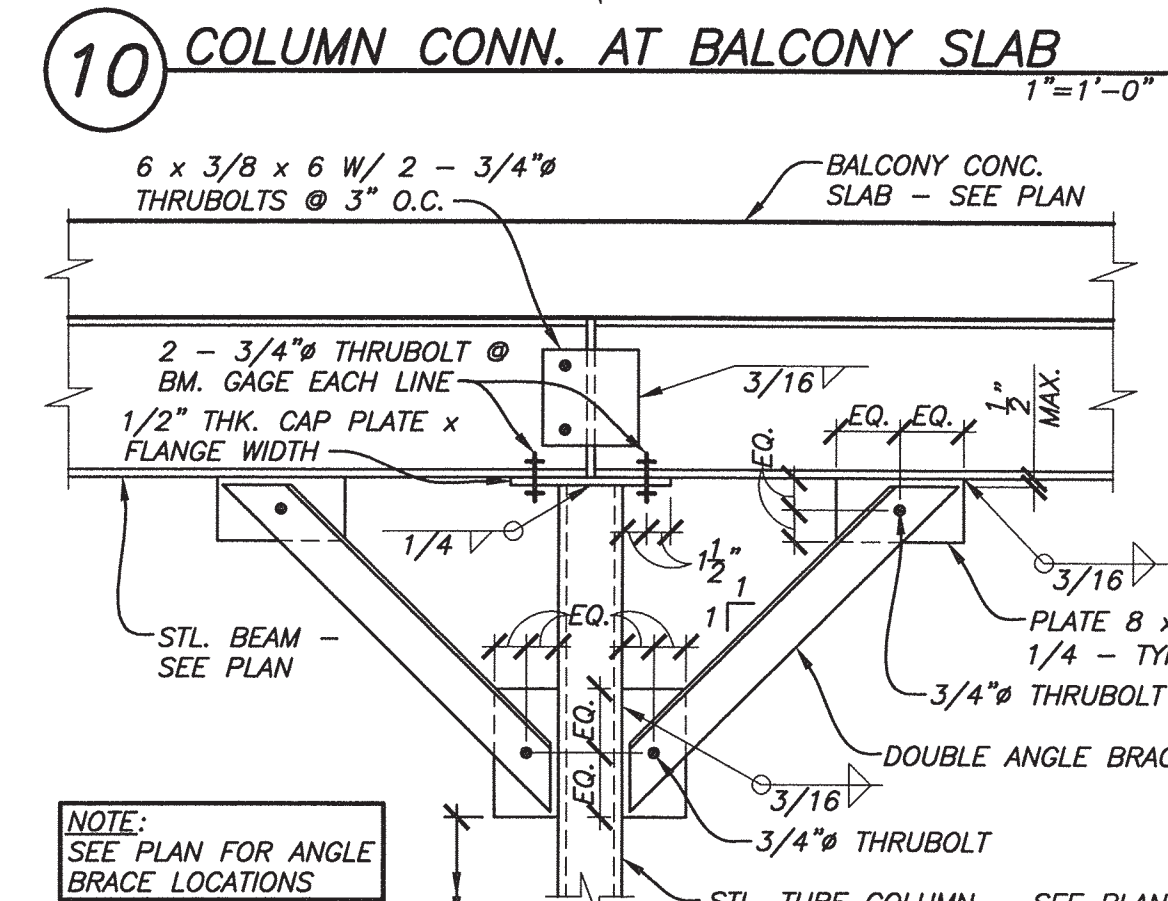
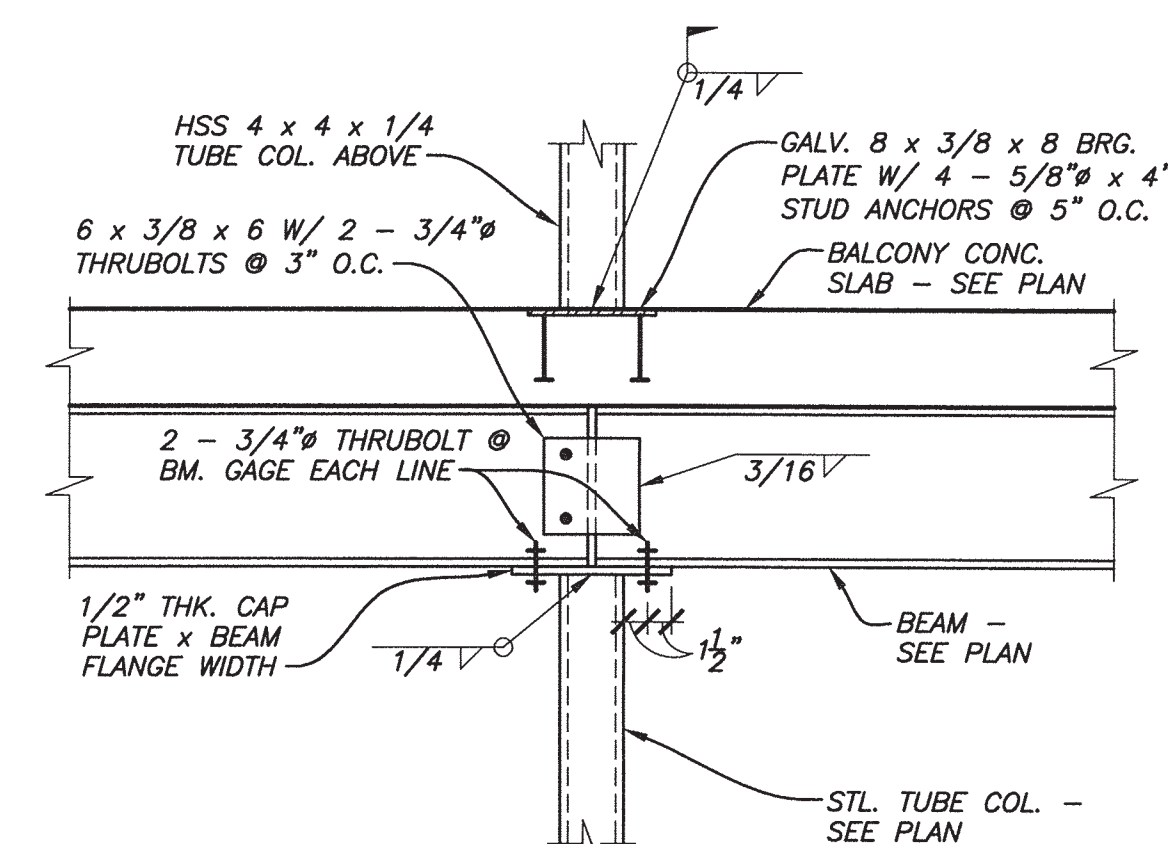
G&A #4082

S:\Projects\2014\40820 - Mesa Burn Building\40820S3.dwg Plotted 3/02/16 - 12:12pm by Eric K



SECOND FLOOR FRAMING NOTES:

- SEE STRUCTURAL NOTES ON SHEET S1.
- SECOND FLOOR SLAB THICKNESS SHALL BE 8" MINIMUM. SLOPE TOP SURFACE ONLY. SEE DETAIL PLAN FOR CONCRETE SLAB SECTIONS AND SLOPES.
- SECOND FLOOR SLAB REINFORCING SHALL BE #5 CONTINUOUS BARS @ 9" O.C. TOP AND BOTTOM EACH WAY UNLESS NOTED OTHERWISE ON PLAN. OUTERMOST REINFORCING LAYERS SHALL RUN IN NORTH-SOUTH DIRECTION. SLOPE TOP BARS WITH TOP OF SLAB TO MAINTAIN PROPER COVER OVER ENTIRE BAR LENGTH. SEE PLAN FOR SPECIAL REINFORCING.
- SEE DETAILS 4/S5 AND 5/S5 FOR SPECIAL REINFORCING AT WALL OPENINGS AND DOORS, RESPECTIVELY.
- FOR PRECAST CONCRETE LINTELS AT MASONRY WALL OPENINGS SEE DETAIL 7/S8 - TYPICAL U.N.O. ON PLANS.
- SCUPPERS SHOWN ON PLAN - SEE ARCHITECTURAL DRAWINGS.
- INTERIOR NON-BEARING WALLS NOT SHOWN - SEE ARCHITECTURAL DRAWINGS.



NOTE:
SEE PLAN FOR ANGLE
BRACE LOCATIONS

SECOND FLOOR FRAMING PLAN

1/4"=1'-0"



GERVASIO & ASSOC. INC.

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CITY OF MESA
ENGINEERING DEPARTMENT

MESA PUBLIC SAFETY TRAINING FACILITY
BURN FACILITY EXPANSION

SECOND FLOOR FRAMING PLAN

DRAWN BY: HLC
ARCHITECT/ENGINEER: MAS
APPROVED BY: REG

ACTIVITY:
PROJ. NO.: CP0096

3260 N. 40TH STREET

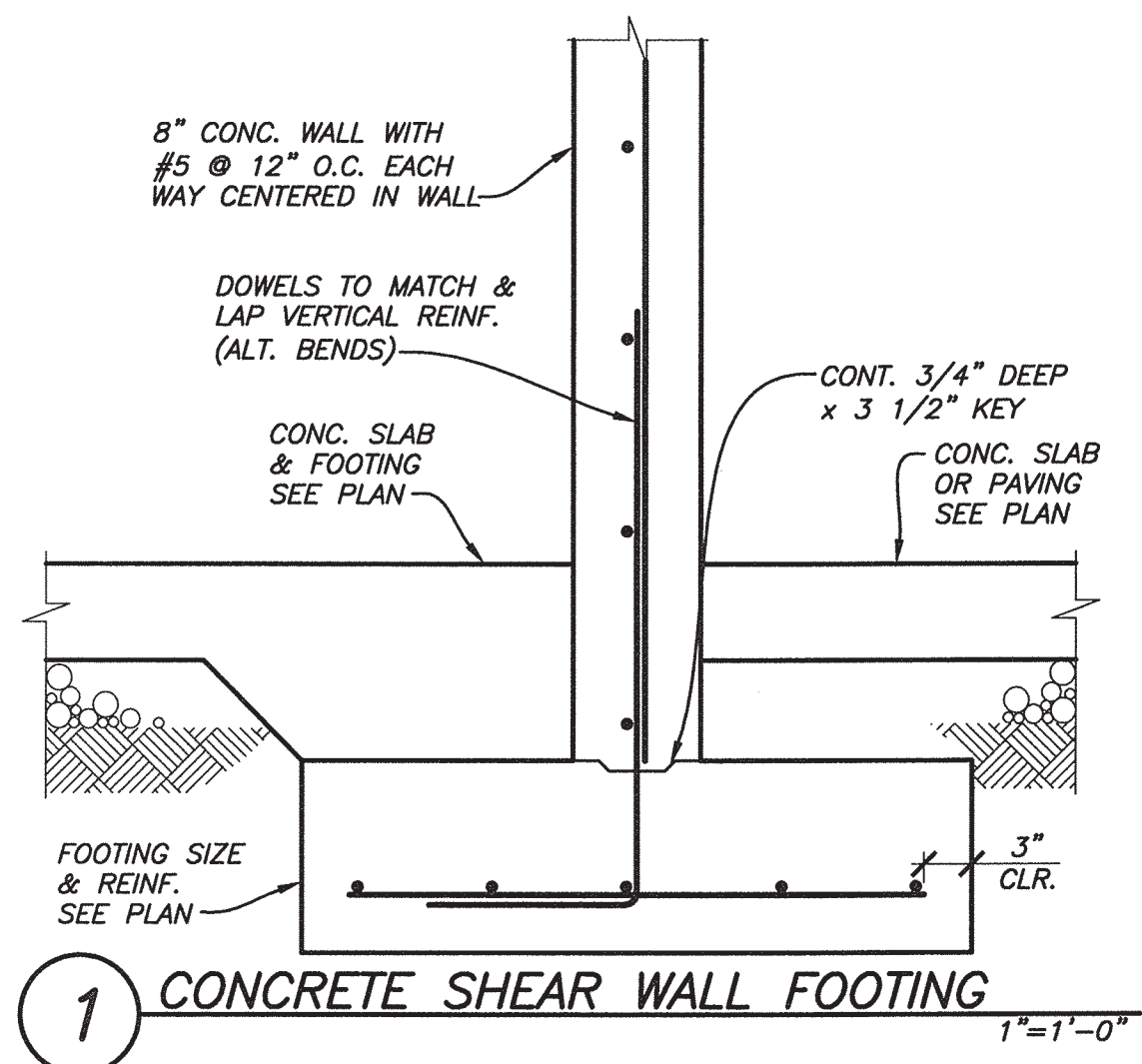
MESA, ARIZONA

SHEET
26 OF 39

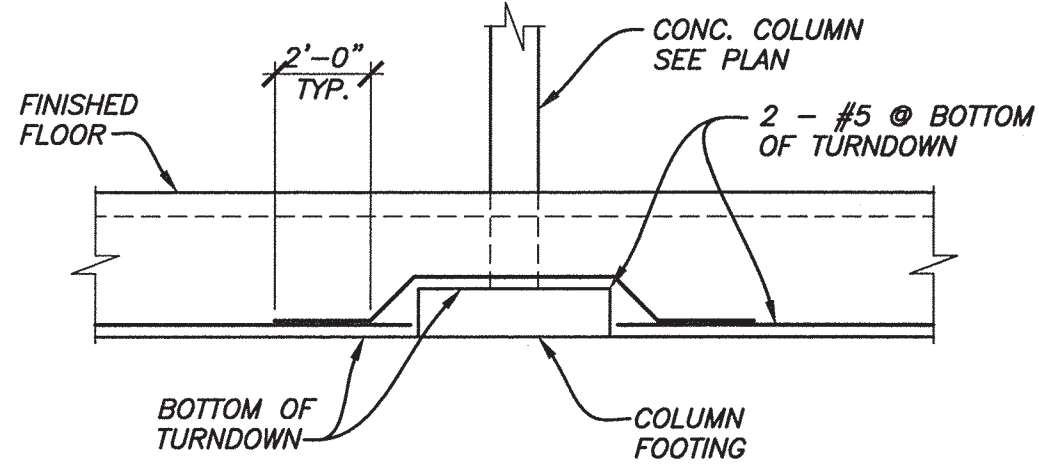
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DRAWING
S3

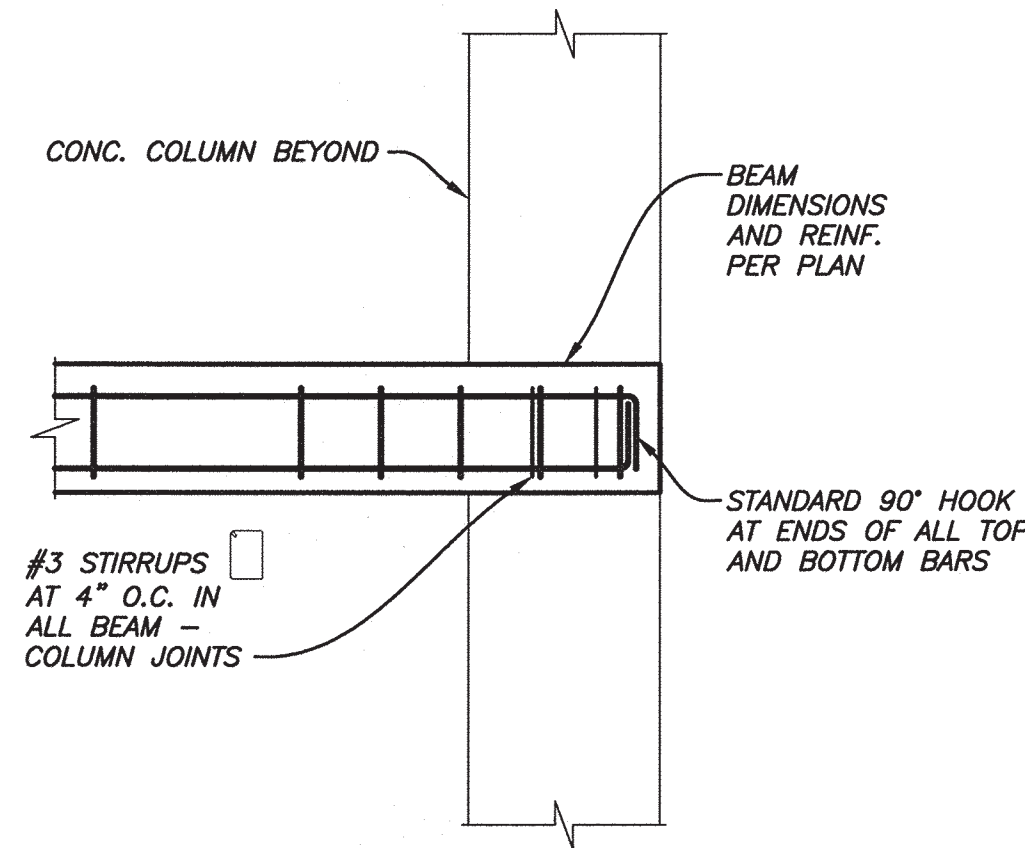
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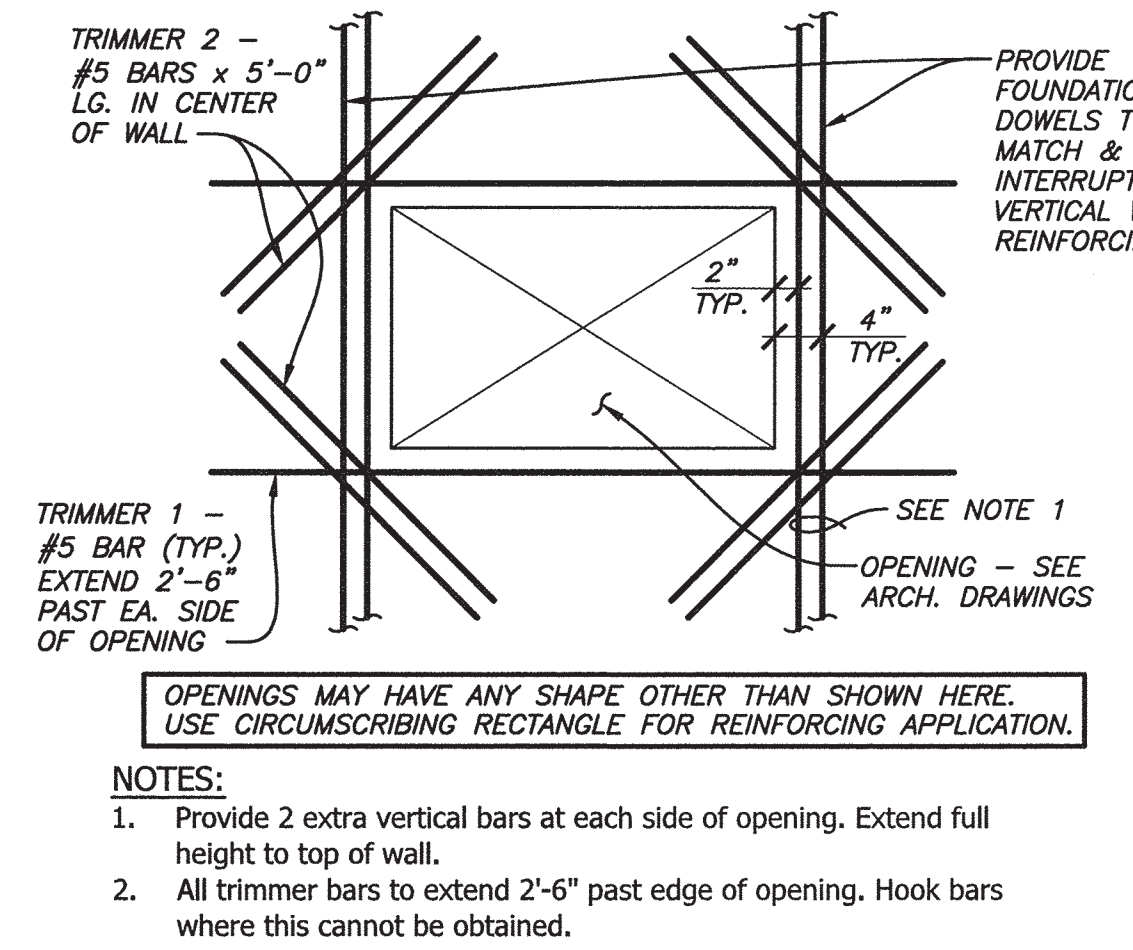
2 TURNDOWN SLAB STEP AT COLUMN FOOTINGS N.T.S.



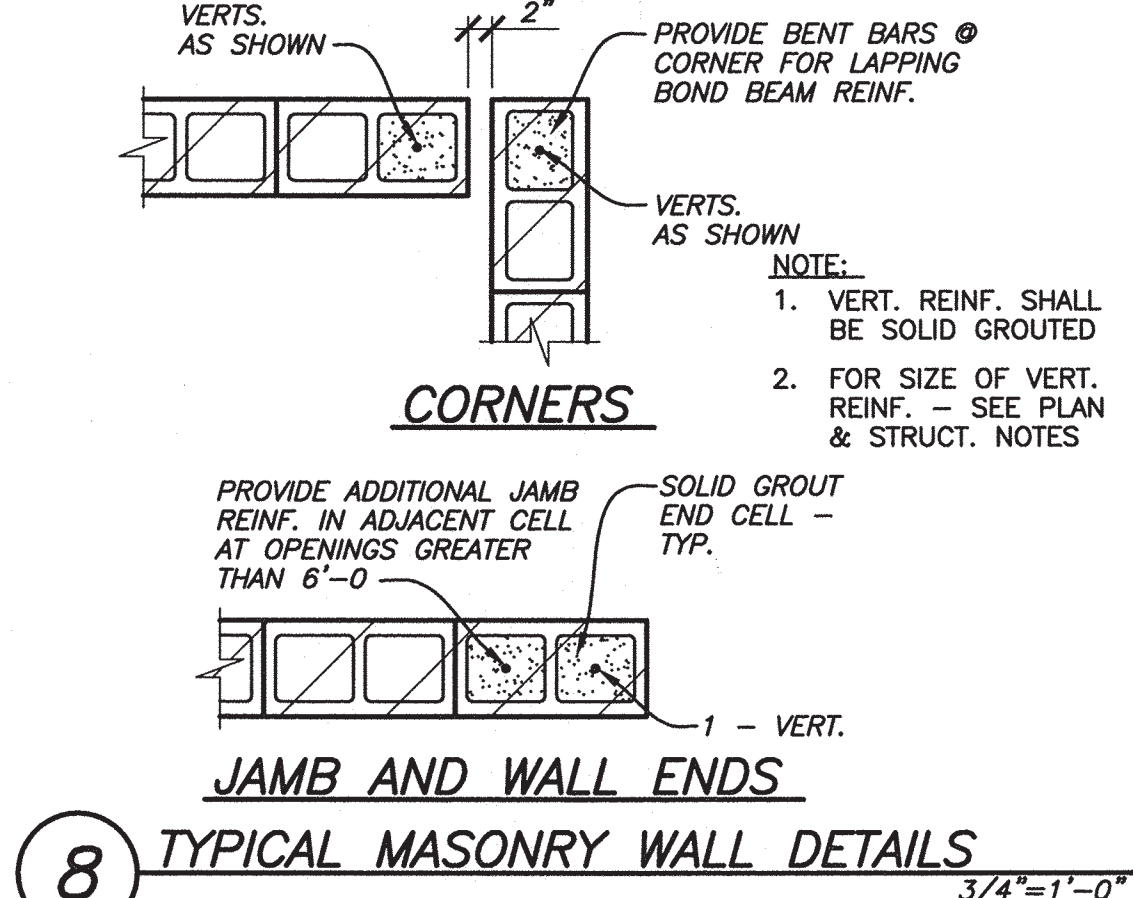
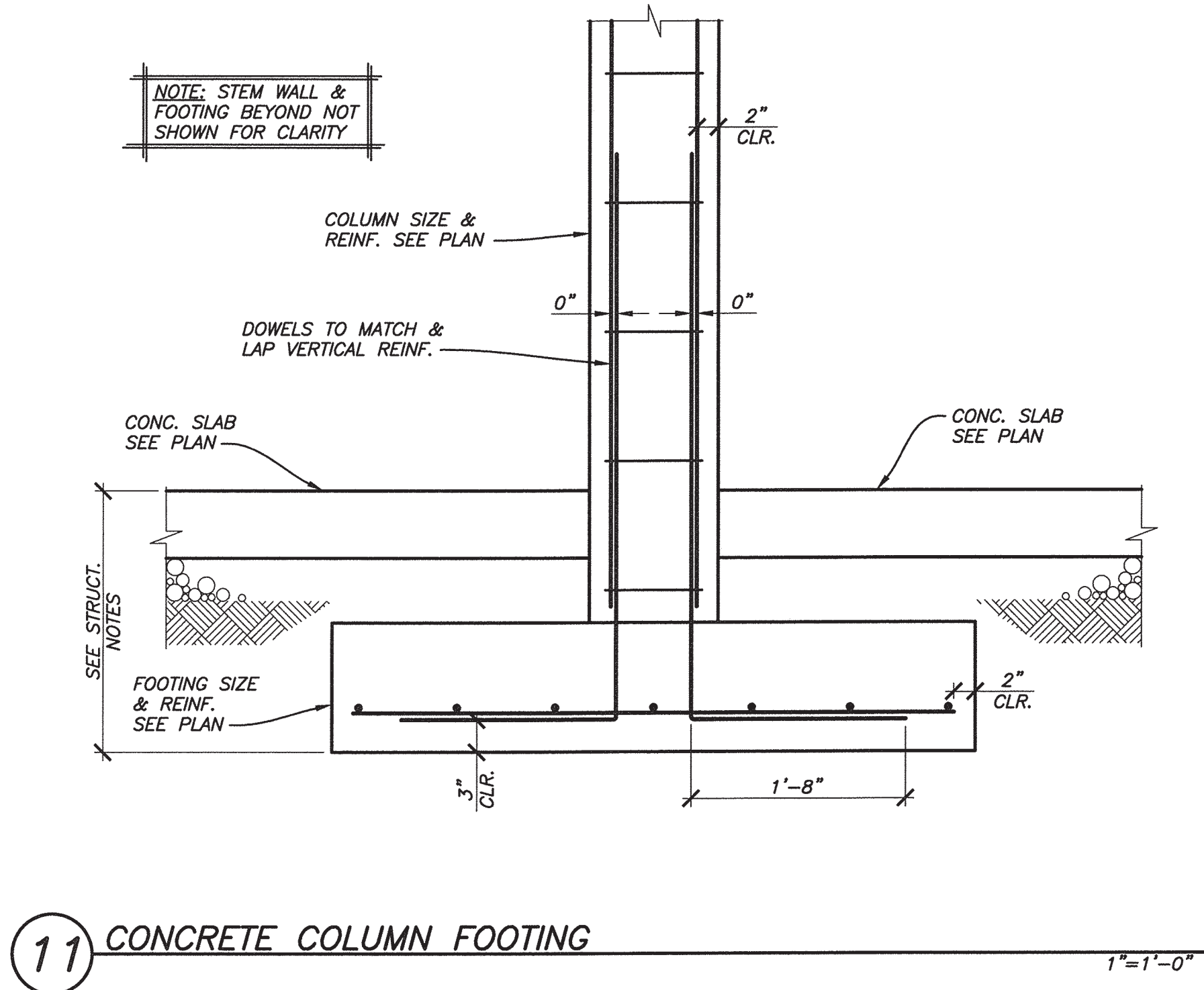
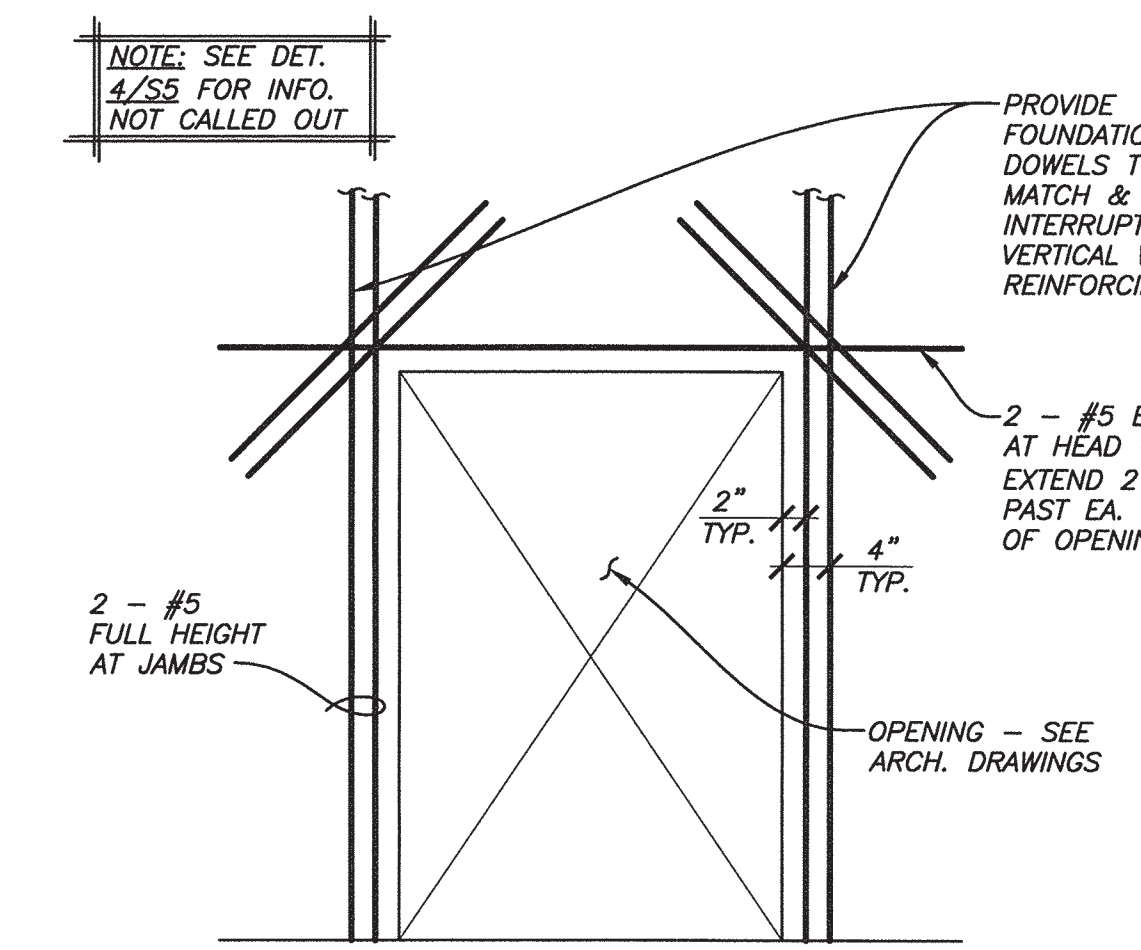
3 BEAM BENDING AND CUTOFF 1"=1'-0"



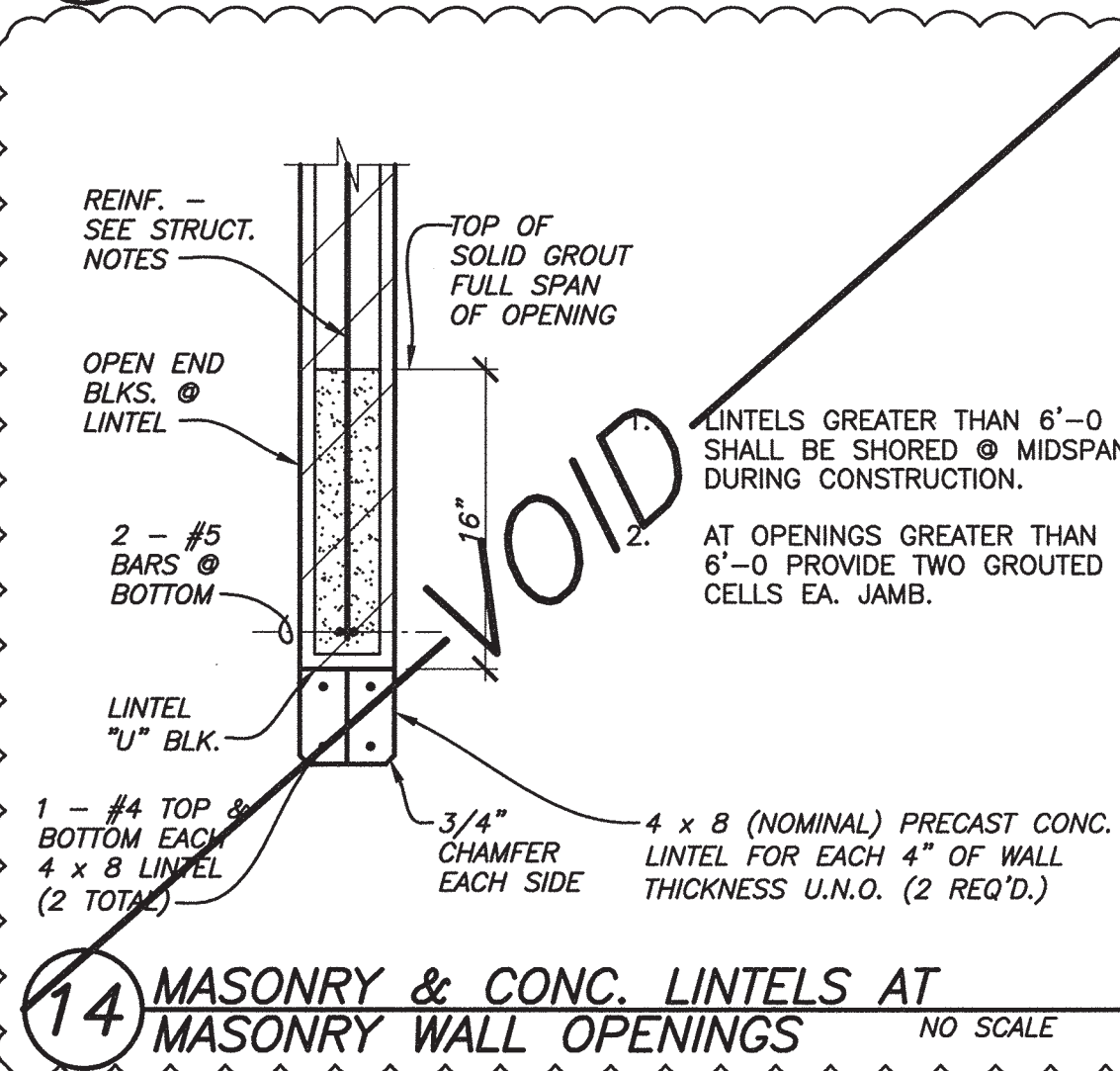
4 ADDED REINF. AT OPENING IN CONCRETE WALL NO SCALE



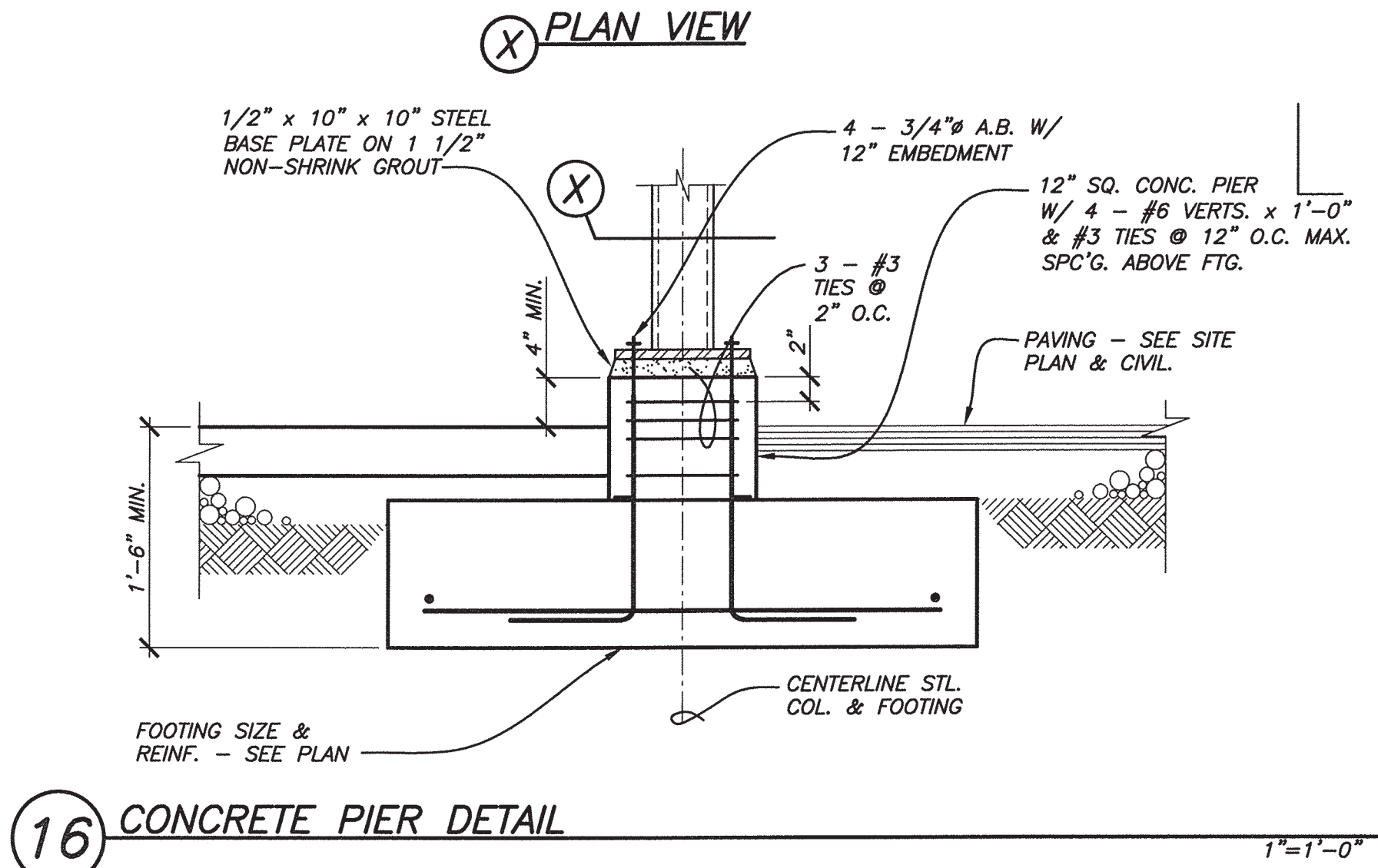
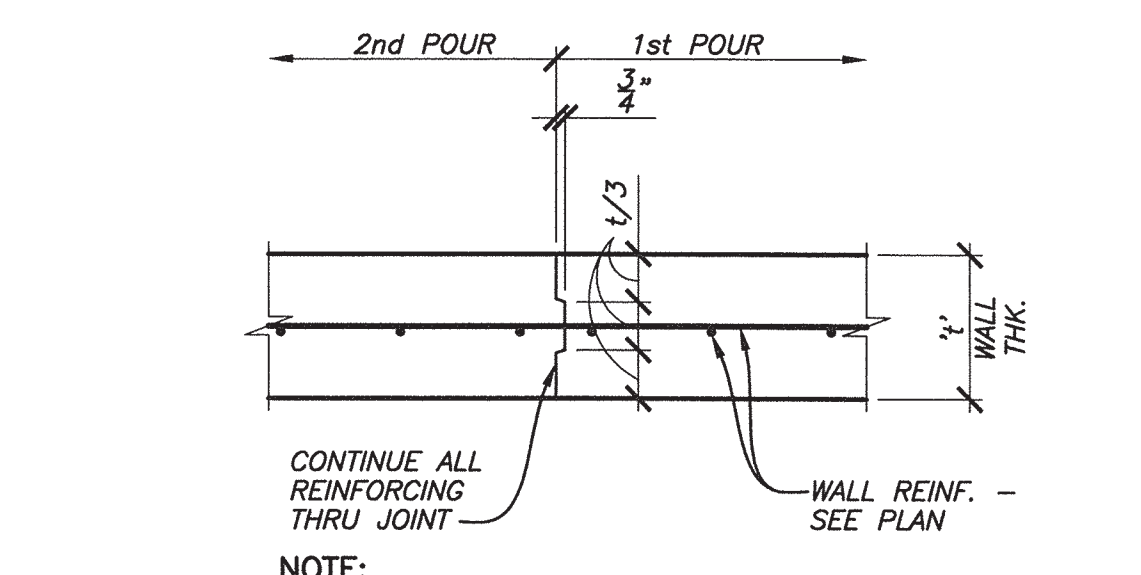
5 TYPICAL DOOR OPENING IN CONCRETE WALL NO SCALE



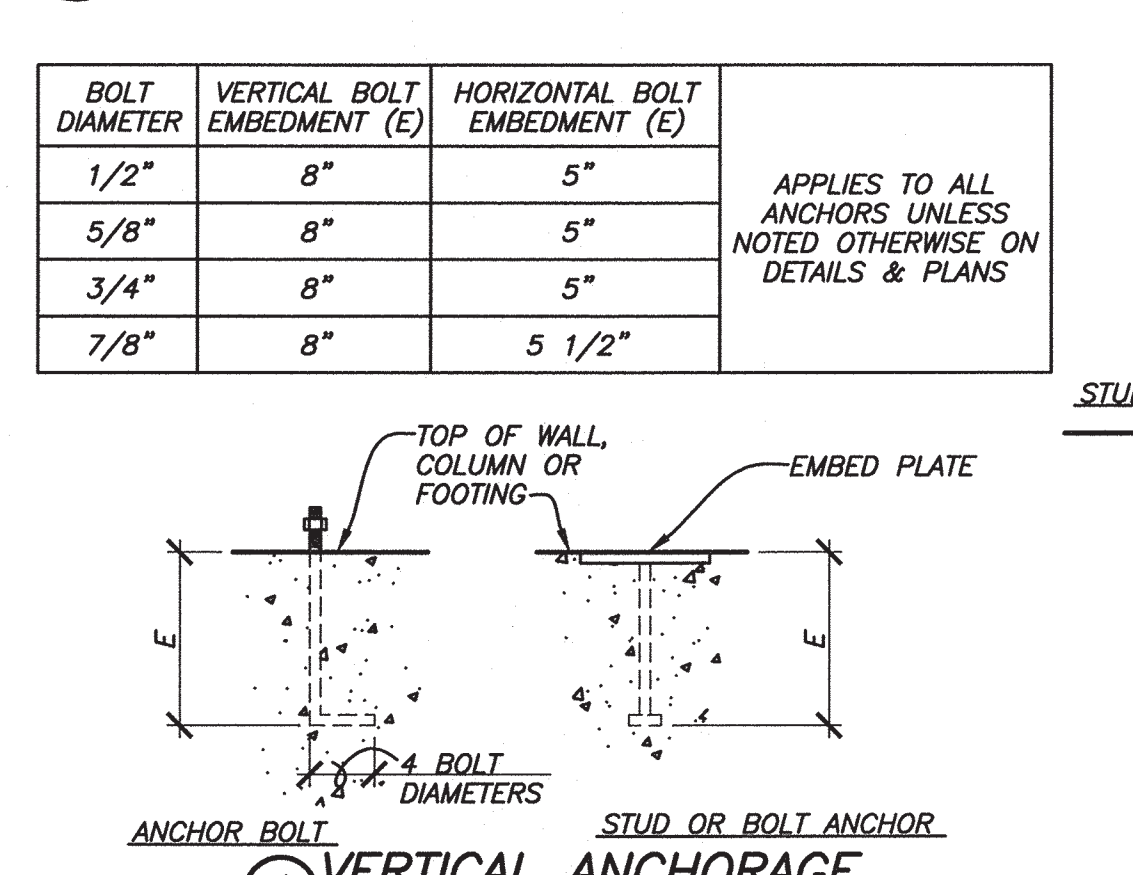
9 TYPICAL CONCRETE WALL DETAILS



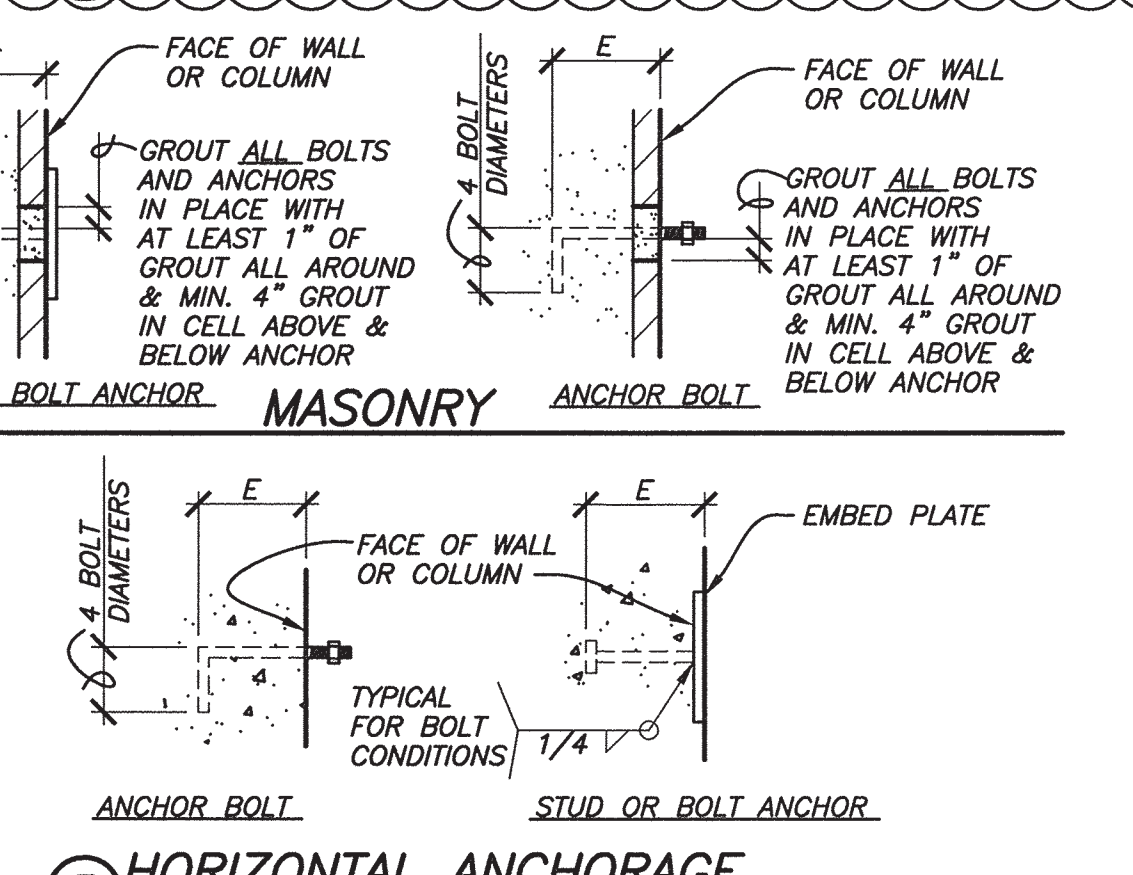
15 CONC. WALL CONSTRUCTION JOINT S3-102



13 FOUNDATION SECTION AT BUILDING EXTERIOR 1"=1'-0"

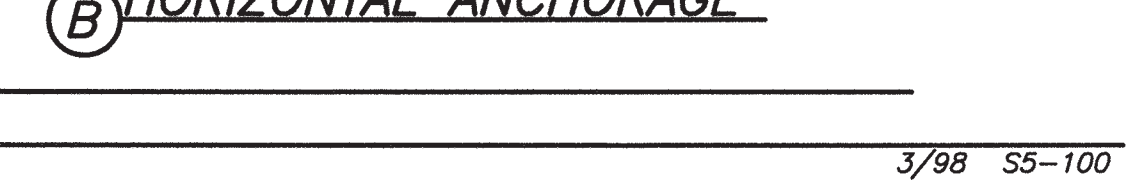


14 MASONRY & CONC. LINTELS AT MASONRY WALL OPENINGS NO SCALE



18 TYPICAL ANCHOR SCHEDULE 3/98 S5-100

BOLT DIAMETER	VERTICAL BOLT EMBEDMENT (E)	HORIZONTAL BOLT EMBEDMENT (E)	
1/2"	8"	5"	APPLIES TO ALL ANCHORS UNLESS NOTED OTHERWISE ON DETAILS & PLANS
5/8"	8"	5"	
3/4"	8"	5"	
7/8"	8"	5 1/2"	



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PHOENIX, ARIZONA

mesa-az

REGISTERED PROFESSIONAL ENGINEER
No. 5700
JOSEPH A. GERVASIO
ARIZONA, U.S.A.
EXPIRES 12/31/17

**CITY OF MESA
ENGINEERING DEPARTMENT**
MESA PUBLIC SAFETY TRAINING FACILITY
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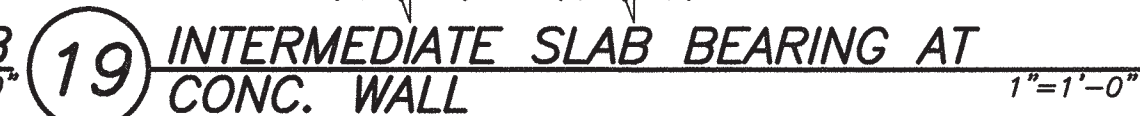
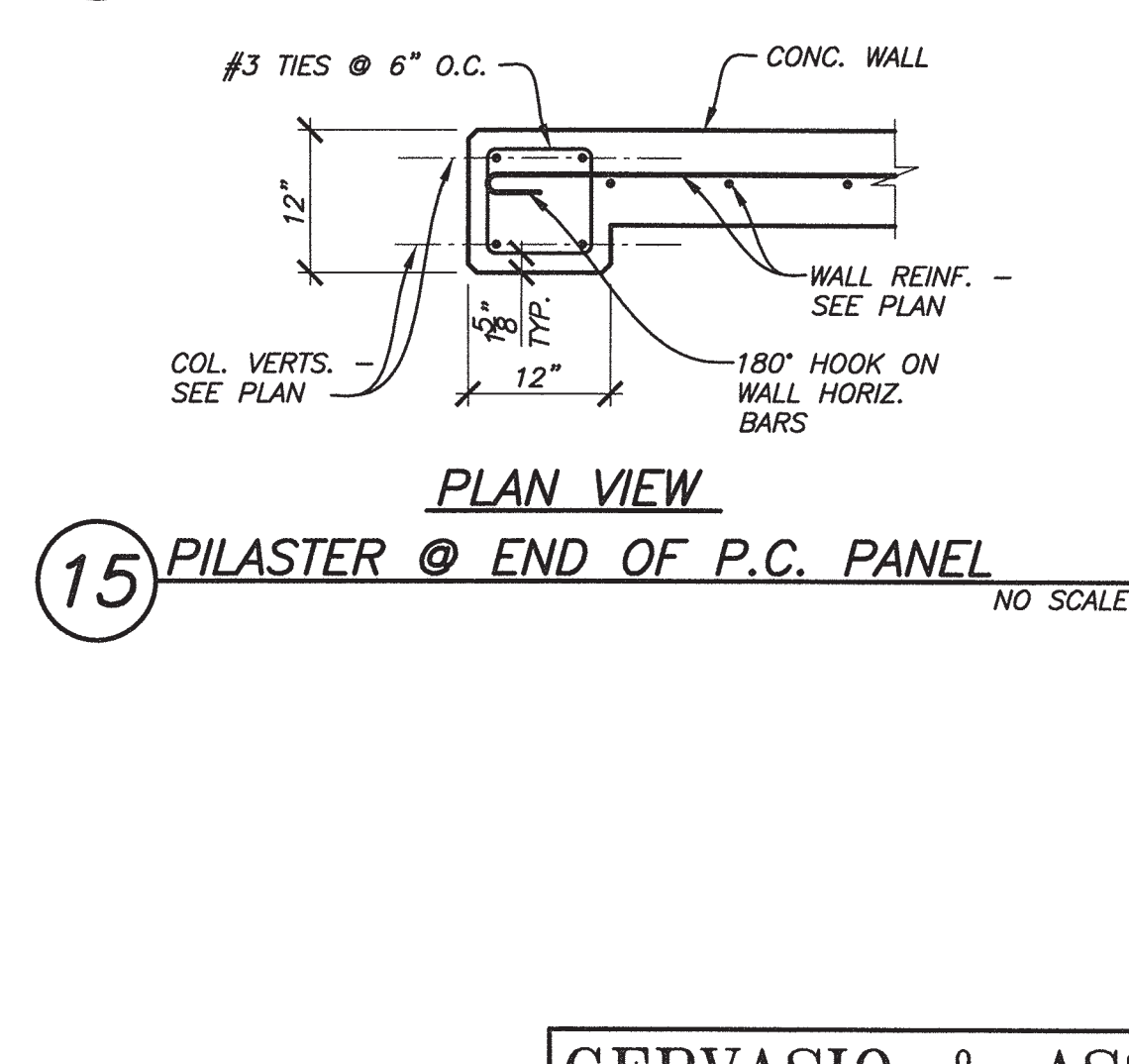
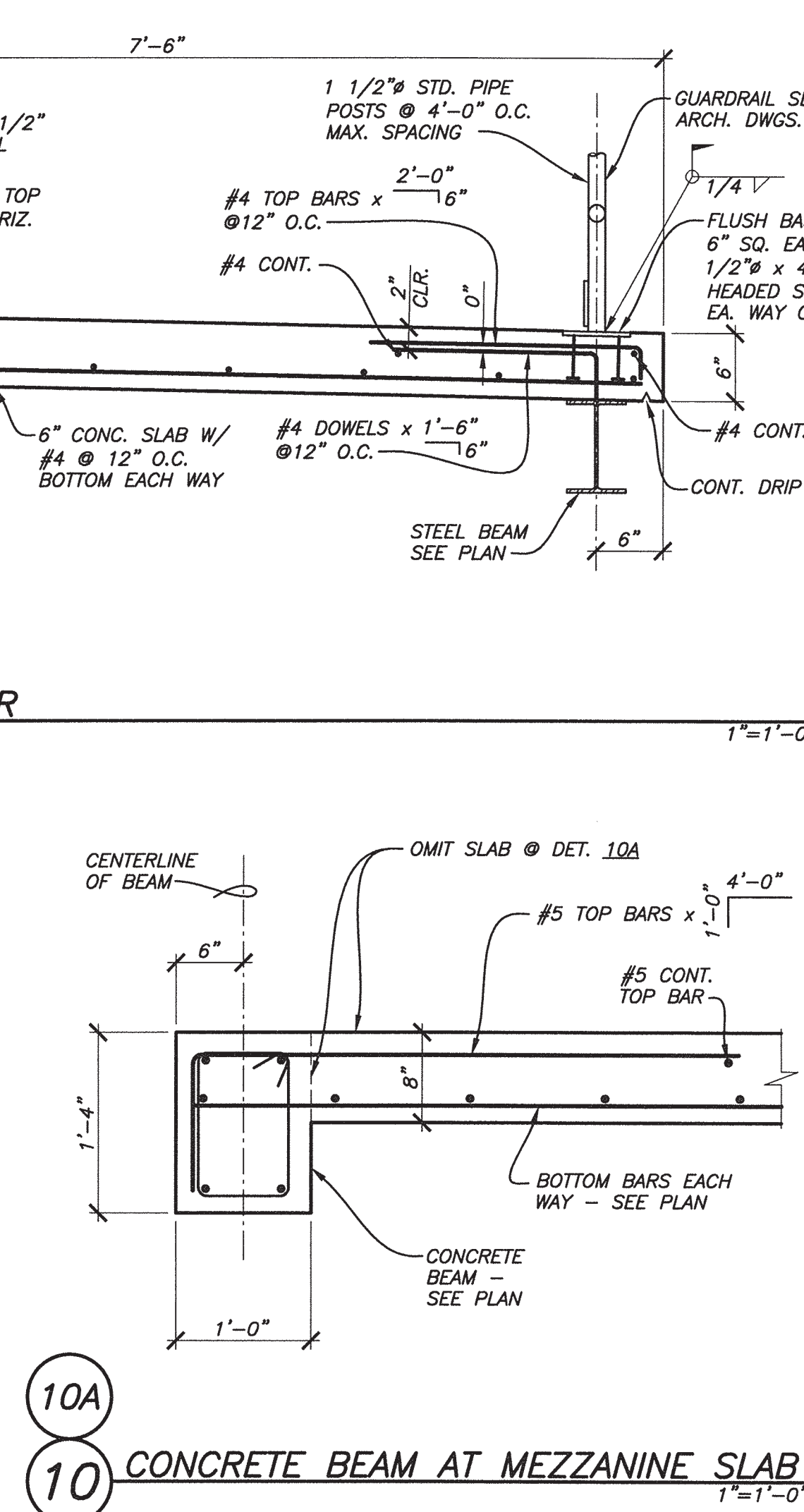
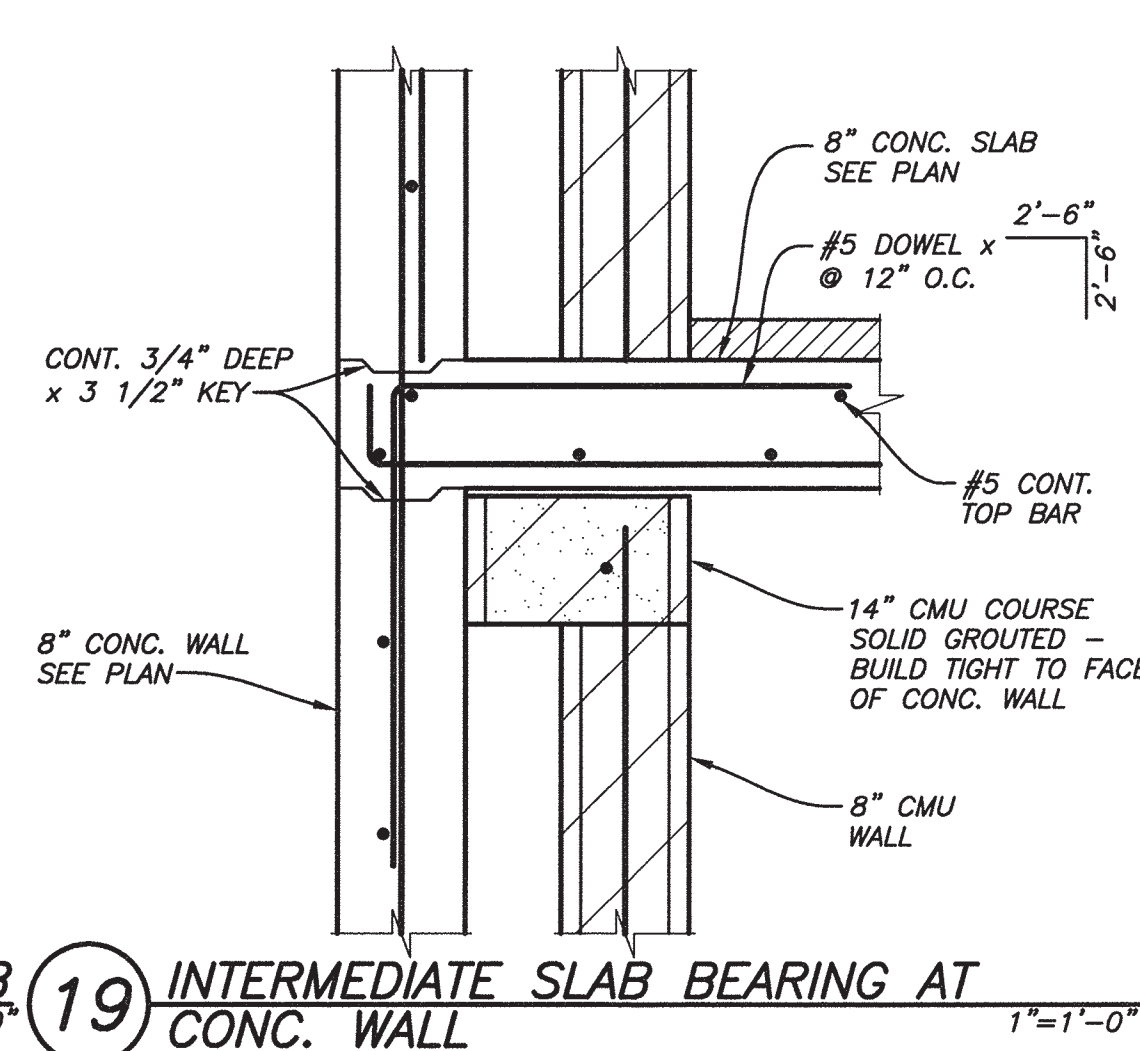
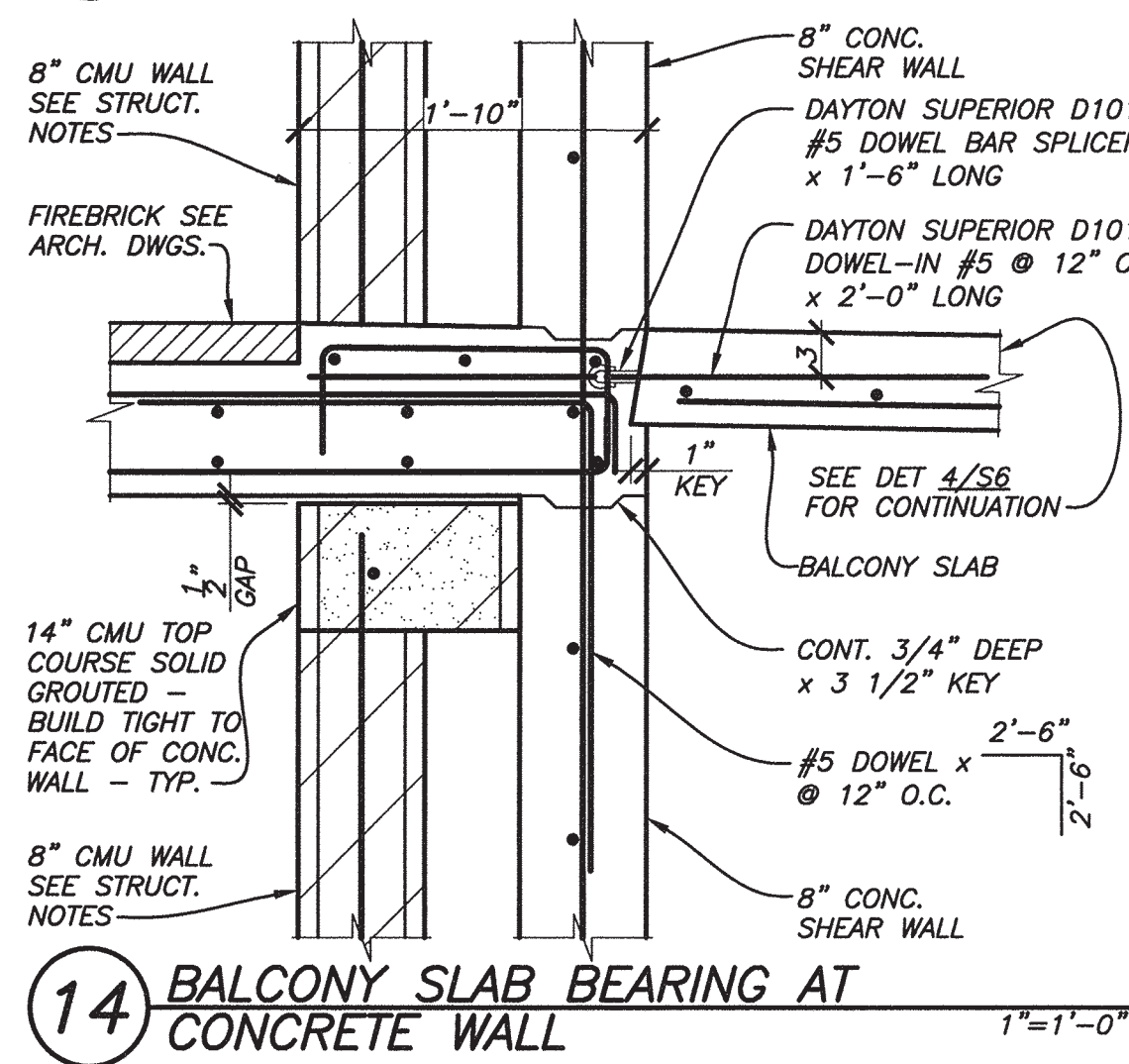
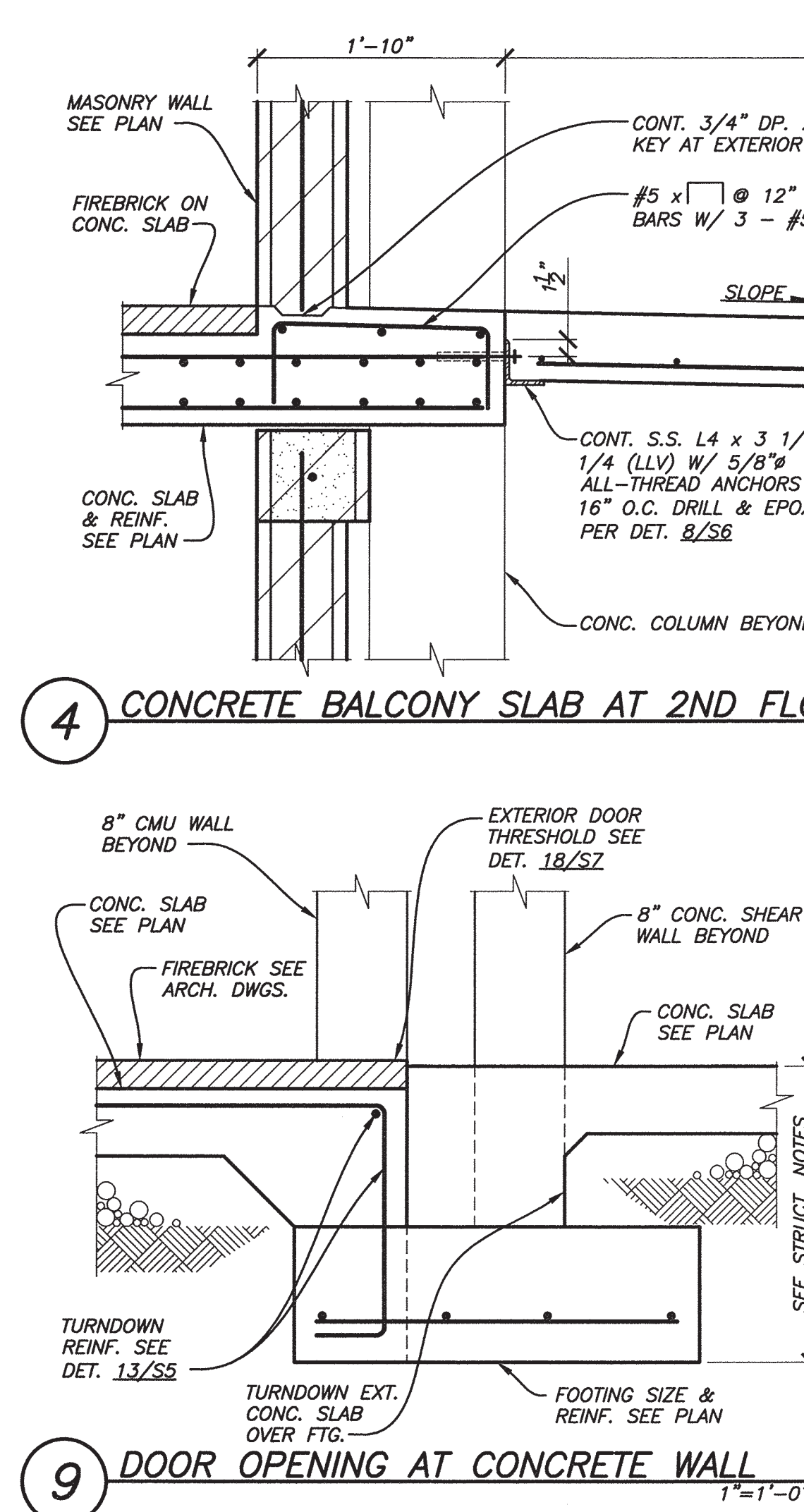
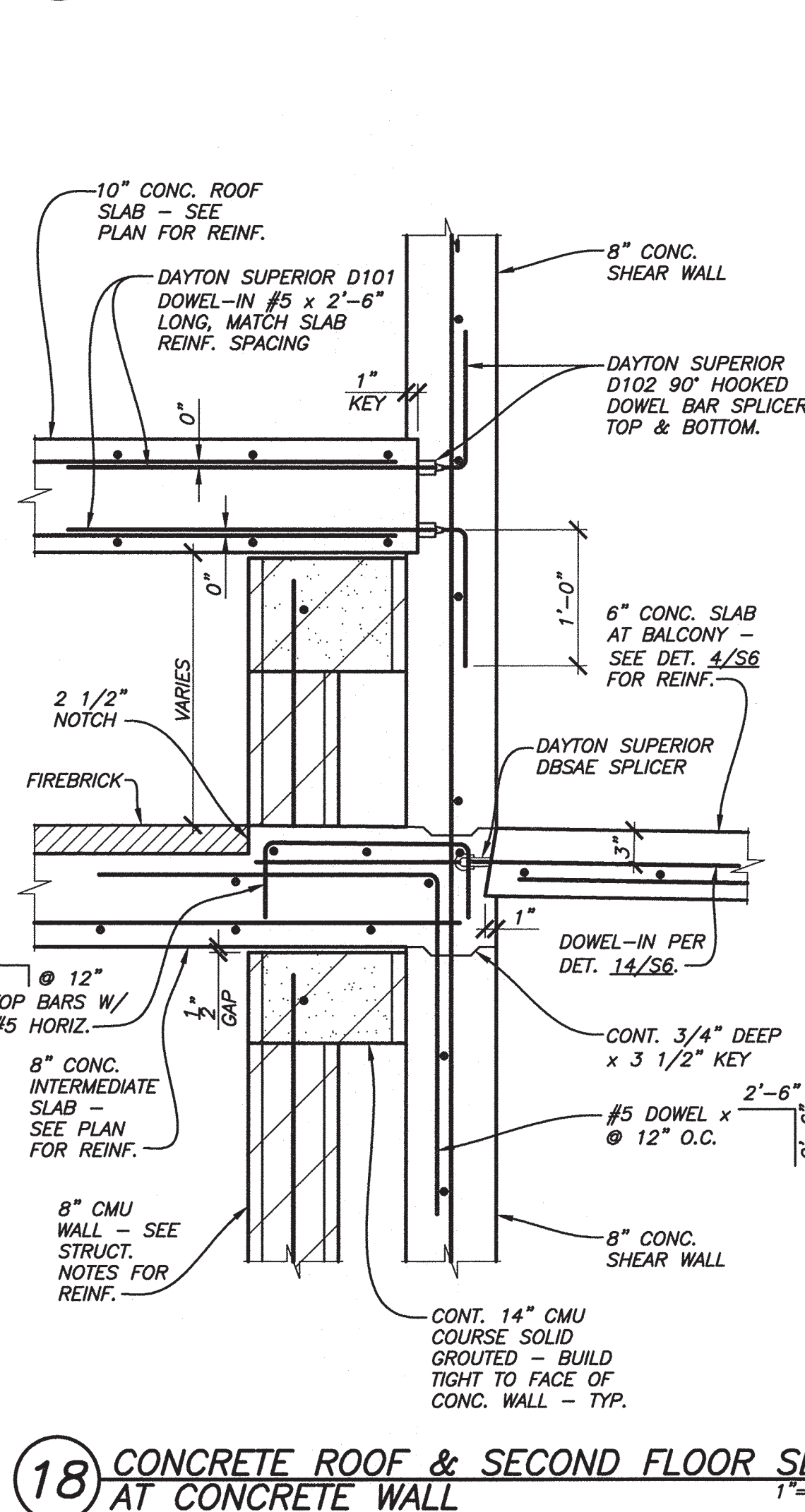
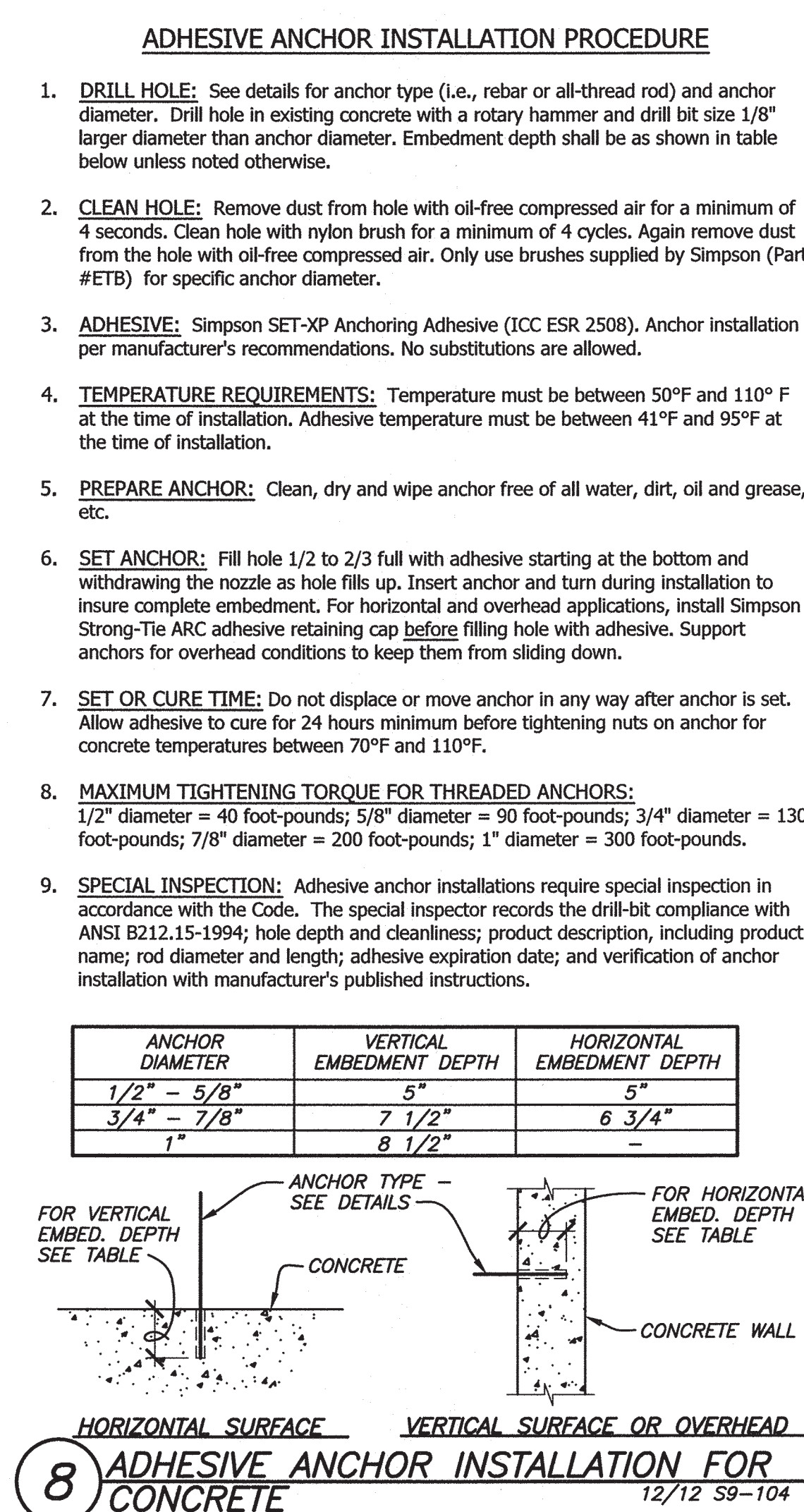
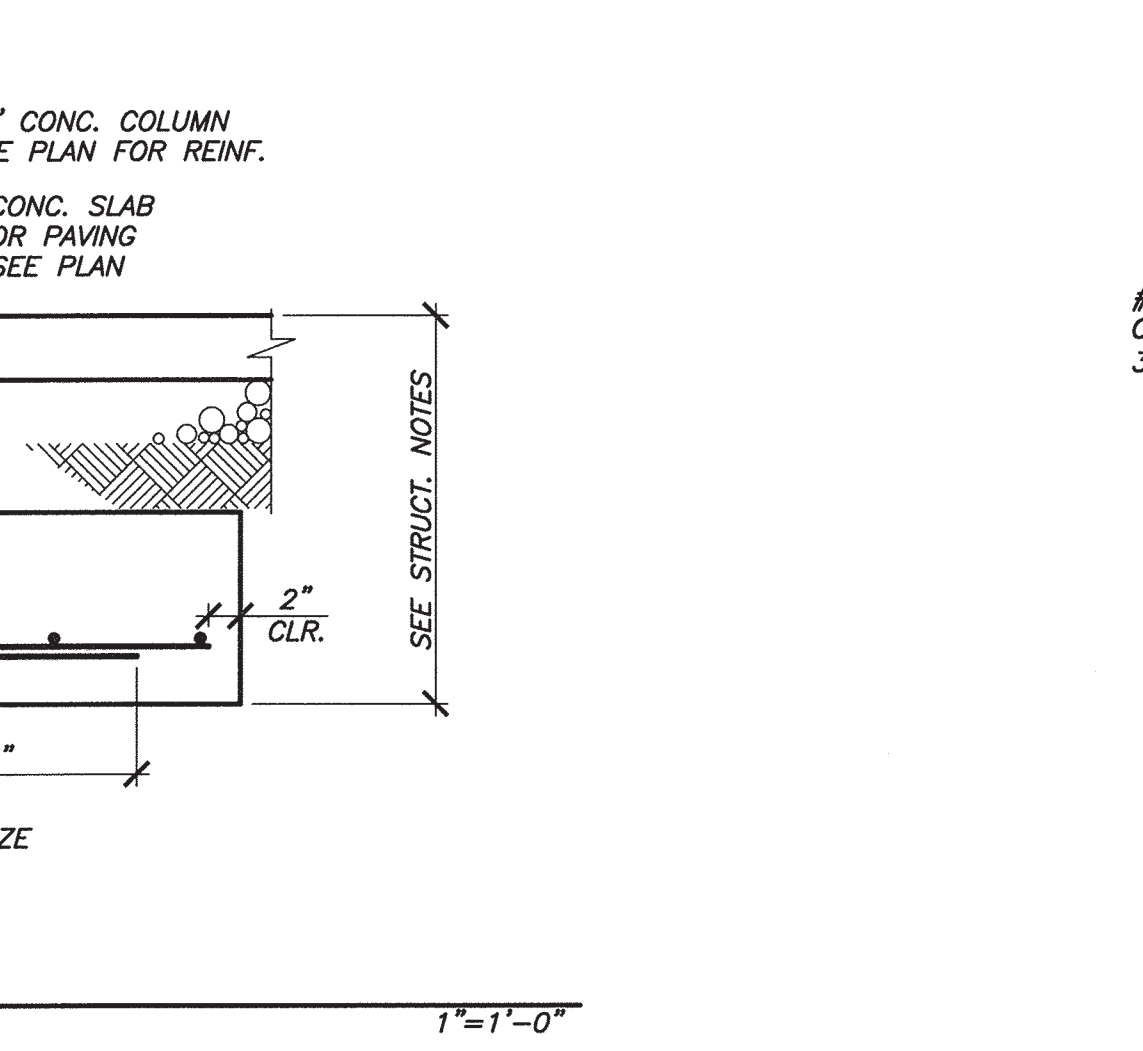
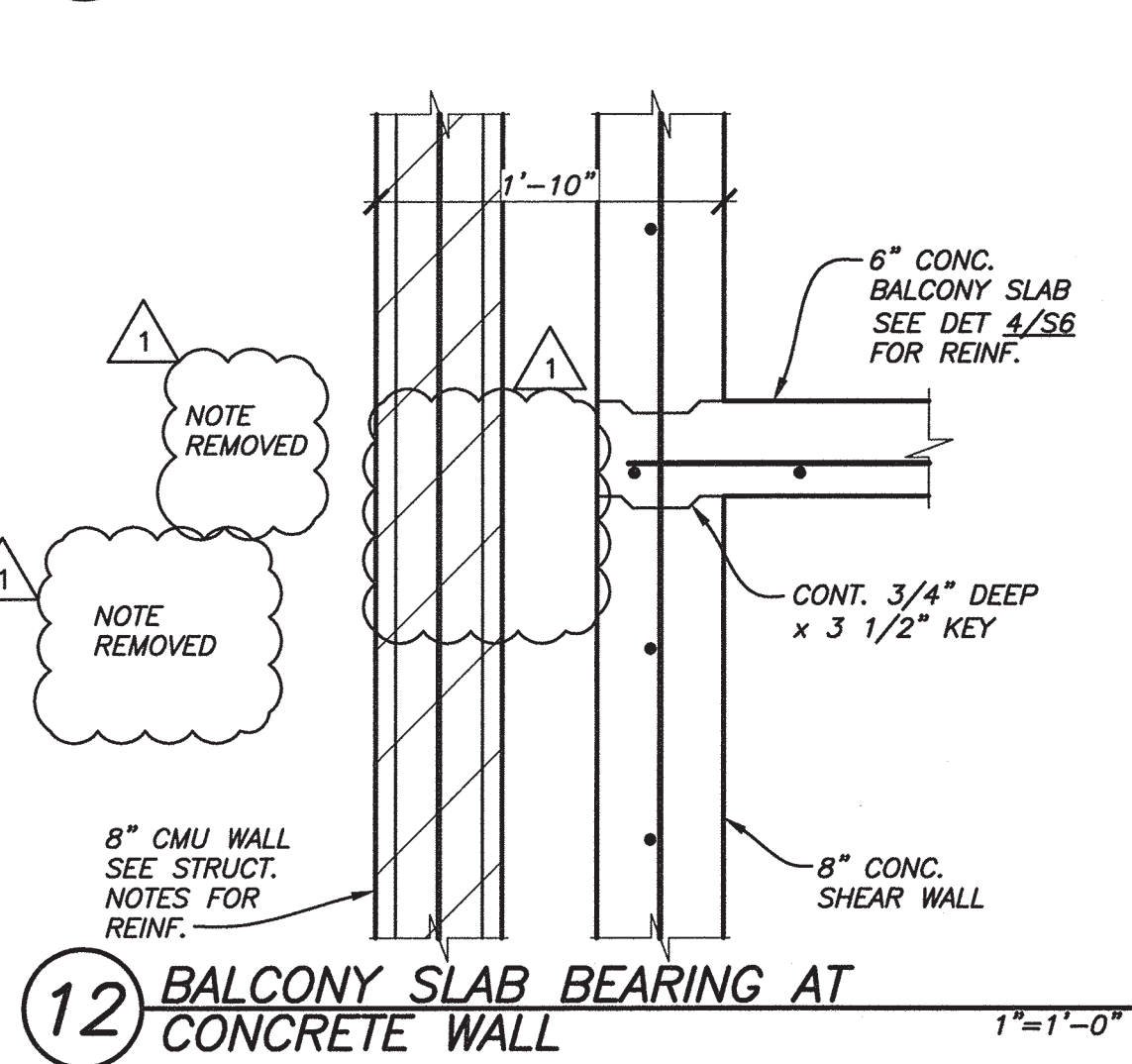
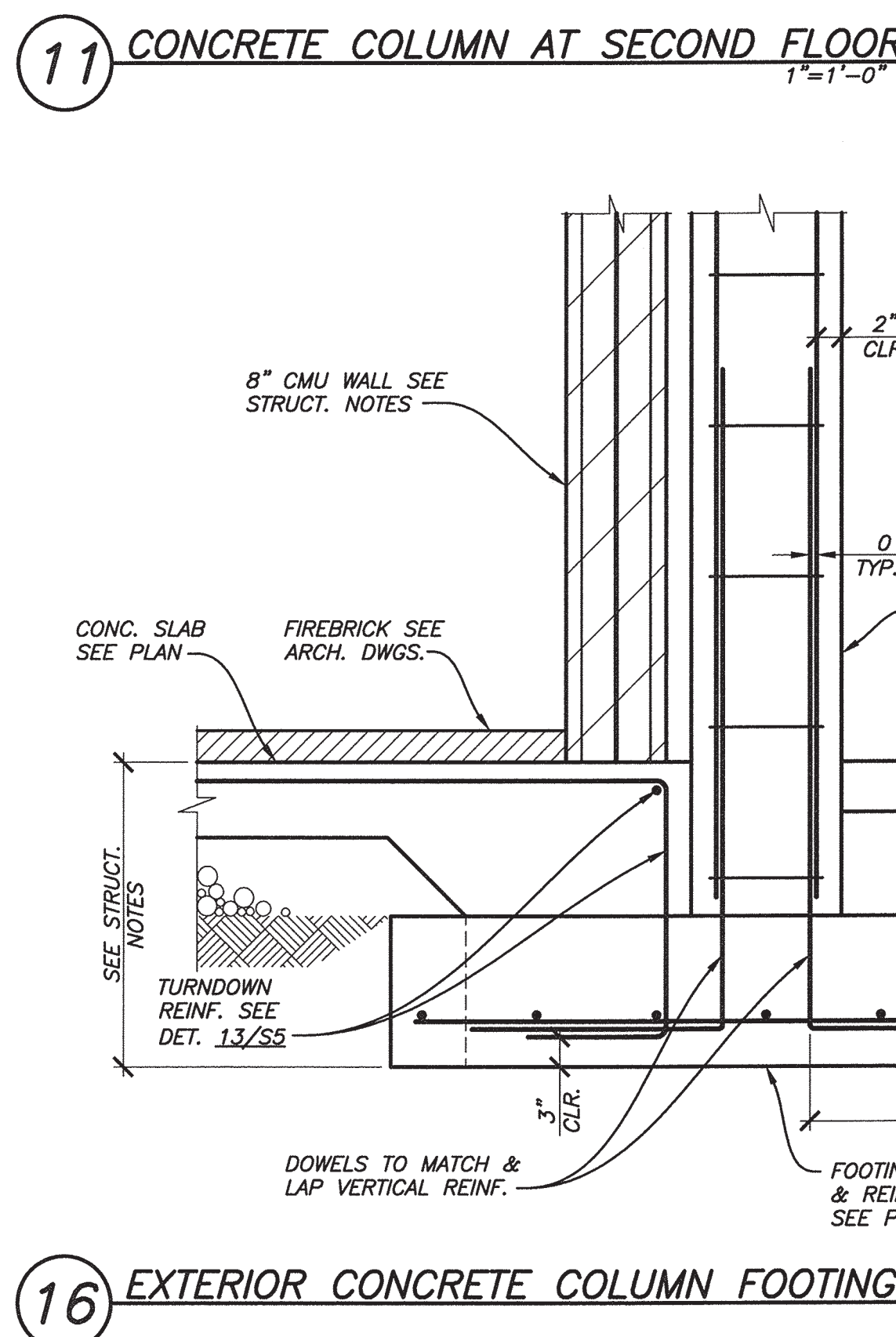
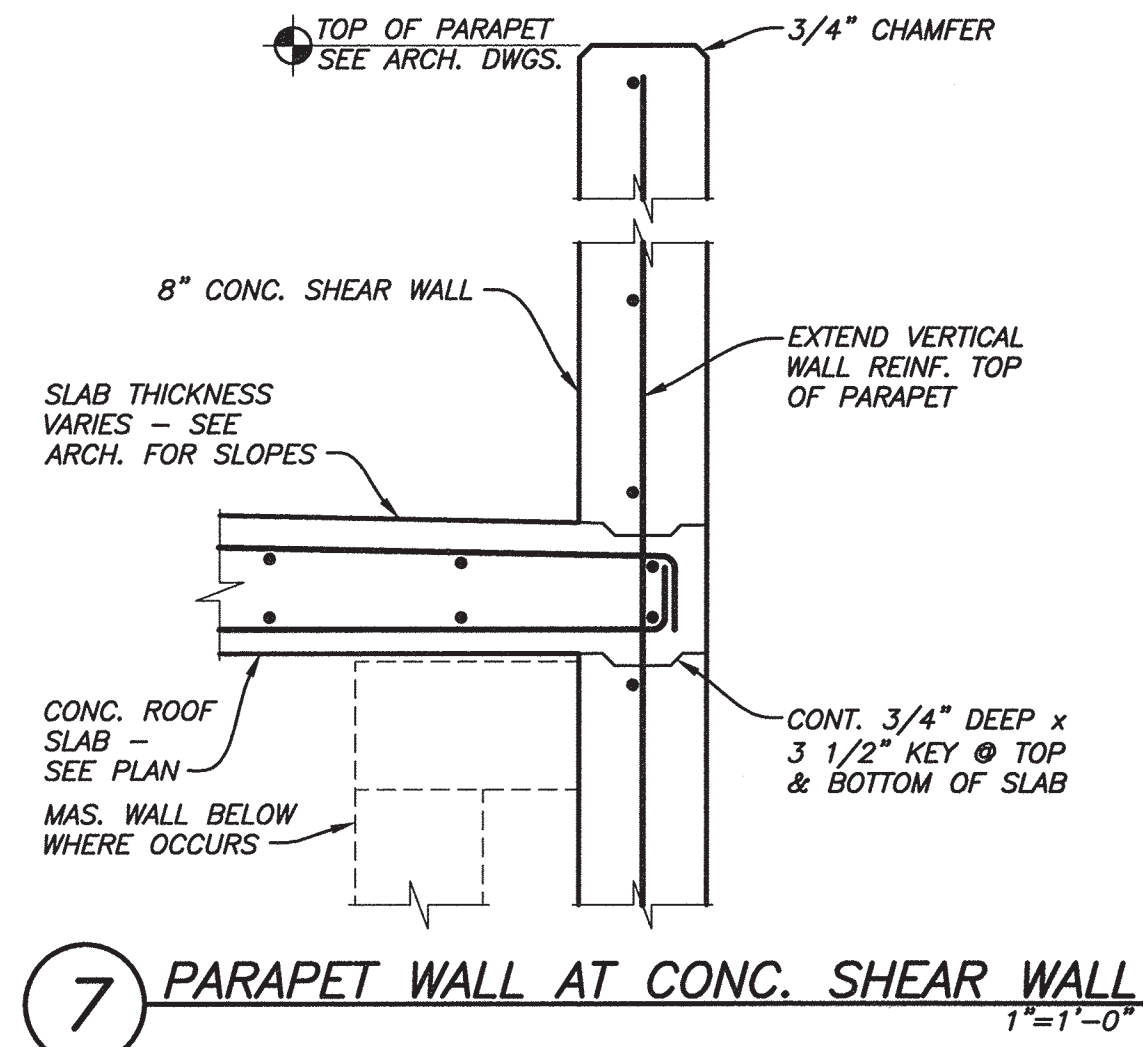
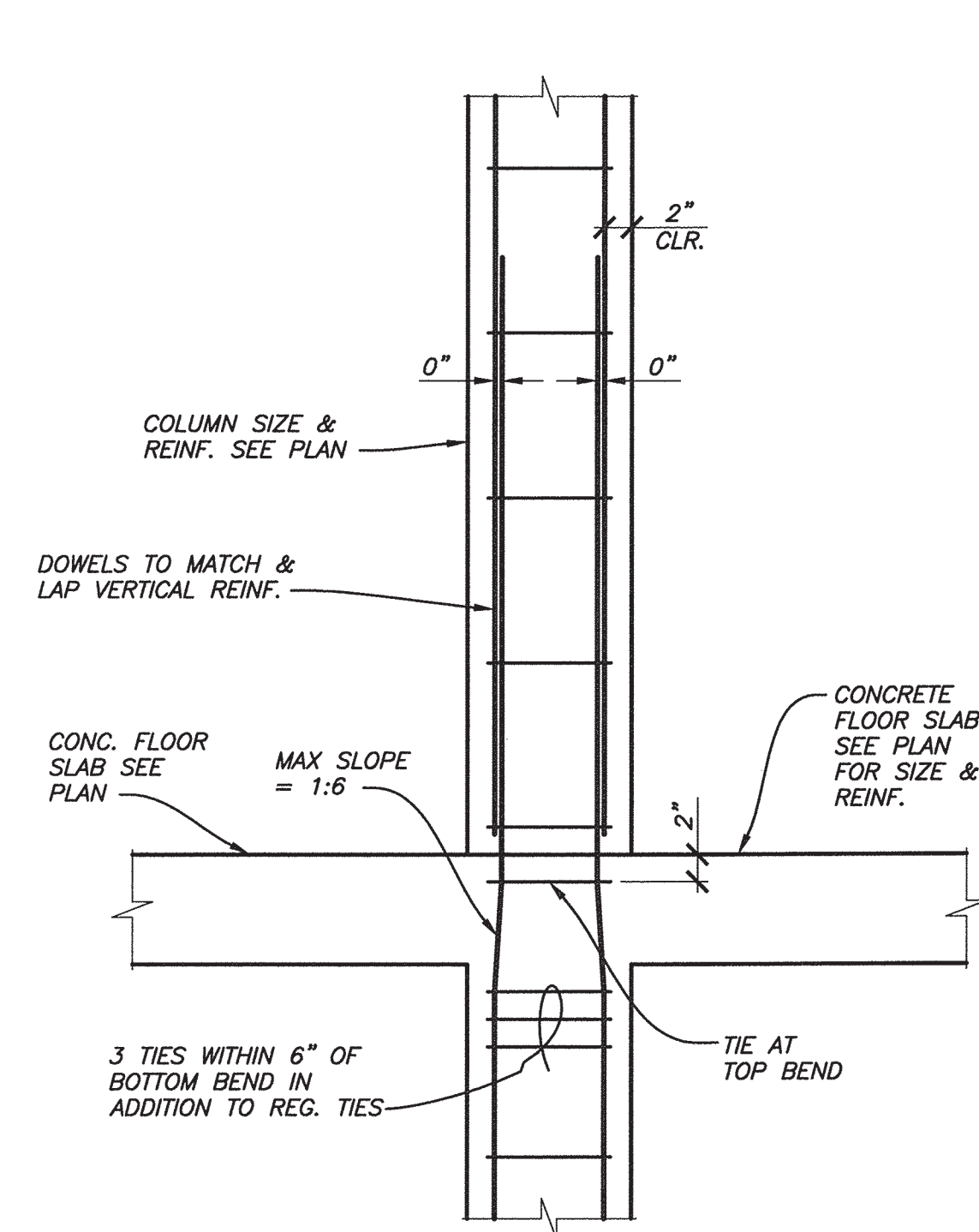
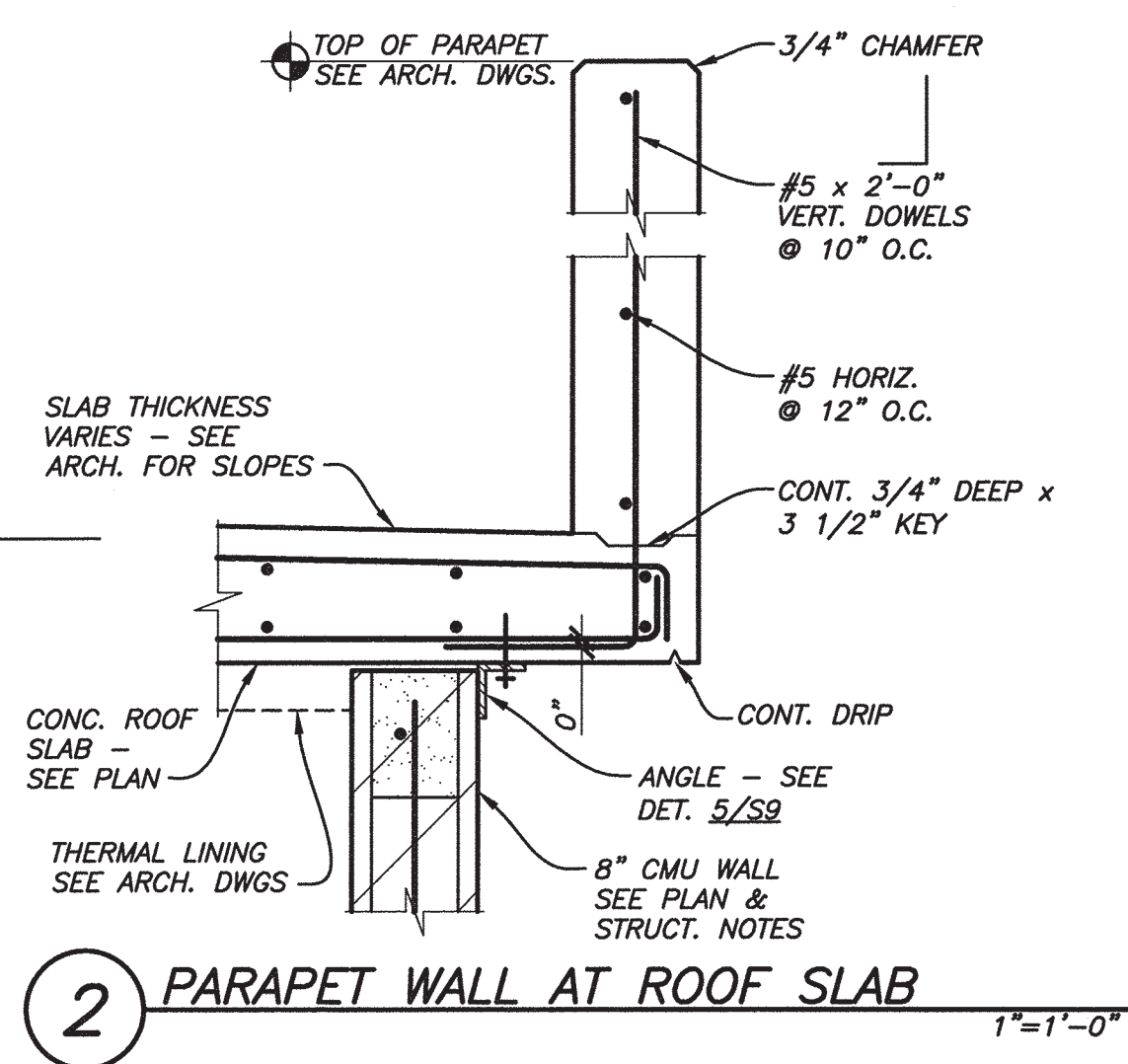
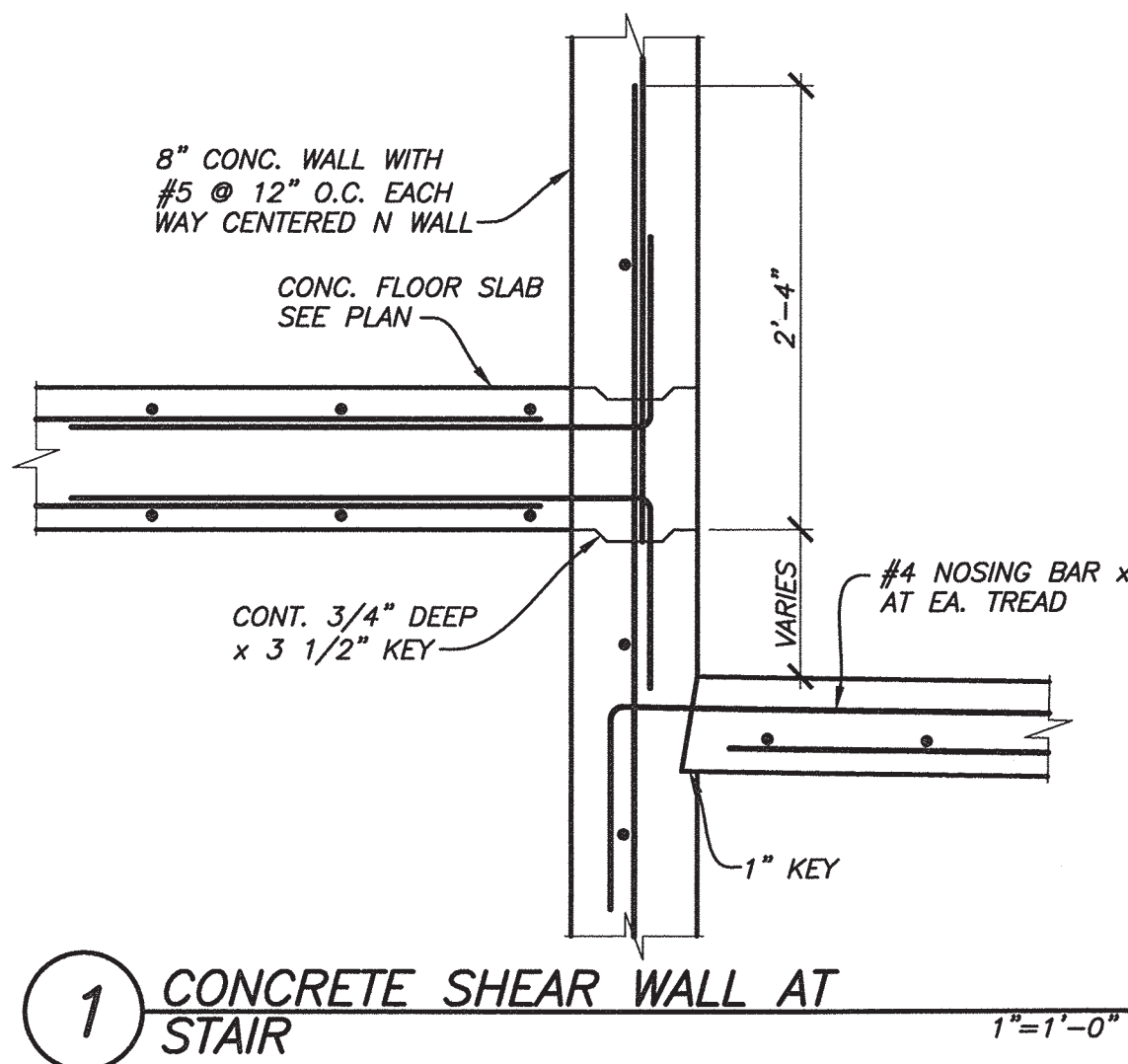
FOUNDATION DETAILS

DRAWN BY: HLC
ARCHITECT/ENGINEER: MAS
APPROVED BY: REB
ACTIVITY:
PROJ. NO.: CP0096

3260 N. 40TH STREET
SHEET
28 OF 39
MESA, ARIZONA
CATALOG NUMBER:
A183407

S5

G&A #4082



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CITY OF MESA
ENGINEERING DEPARTMENT

MESA PUBLIC SAFETY TRAINING FACILITY
BURN FACILITY EXPANSION

SECOND FLOOR DETAILS

DRAWING **S6**

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SHEET 29 OF 39

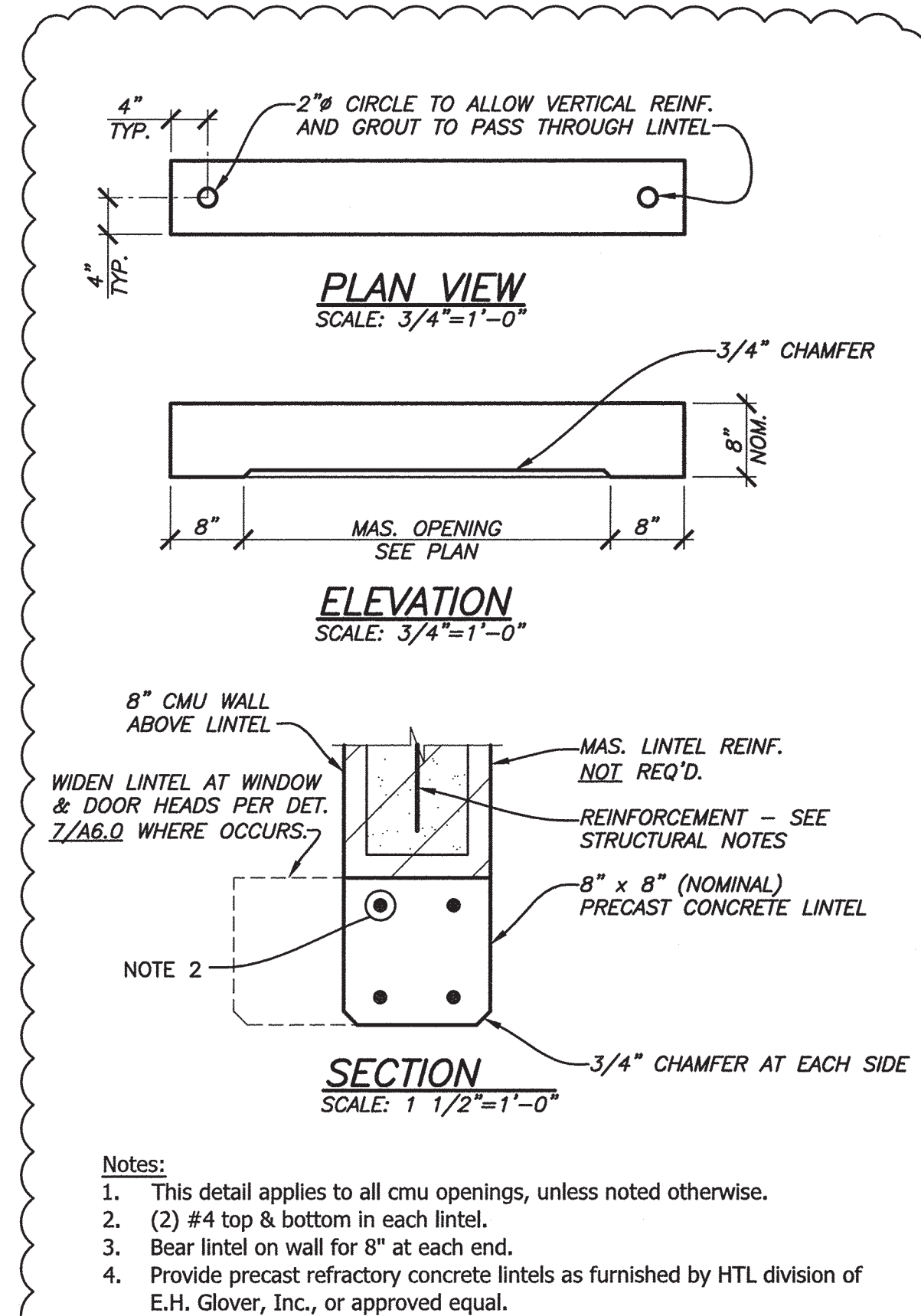
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EXPIRES 12/31/17

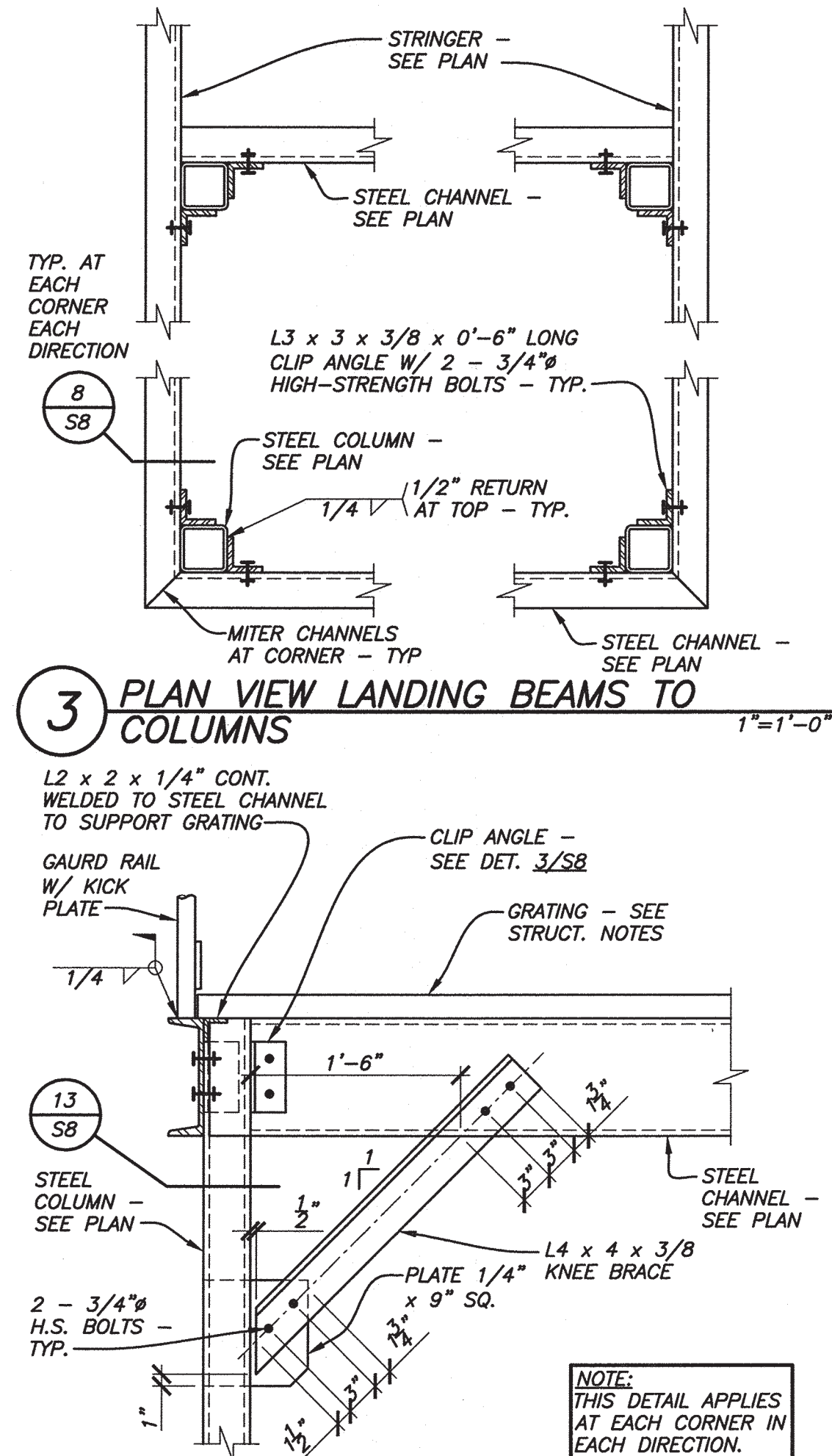
DRAWN BY: HLC
ARCHITECT/ENGINEER: MAS
APPROVED BY: REB

ACTIVITY: PROJ. NO.: CP0096

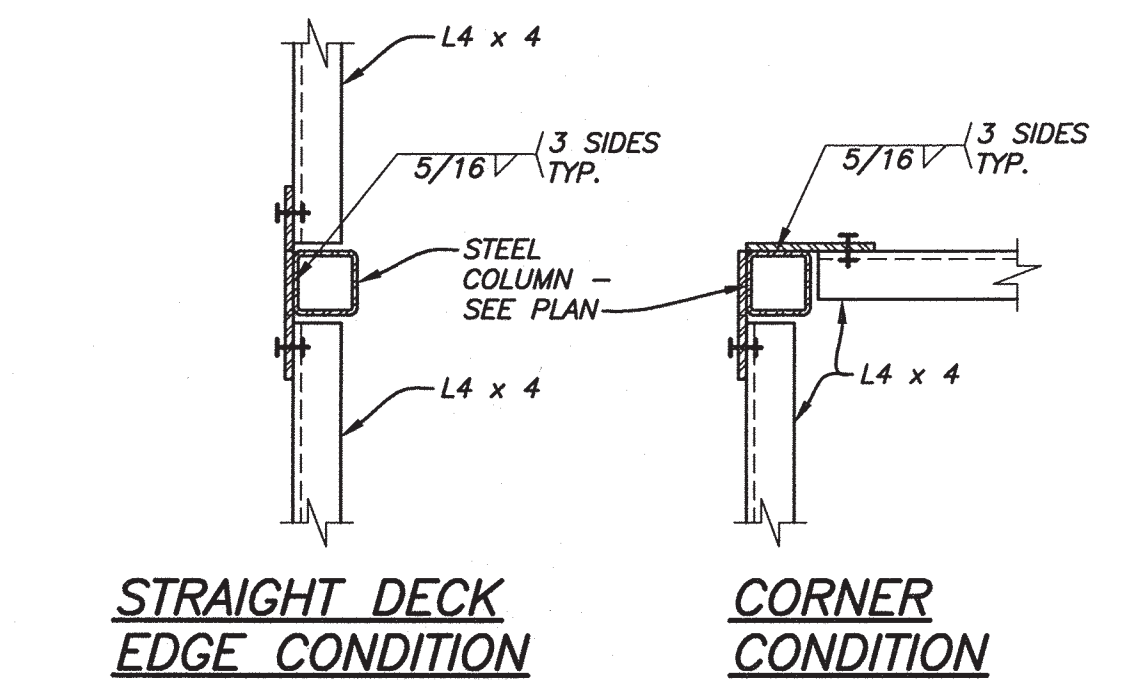
AS1 #01 2-24-16



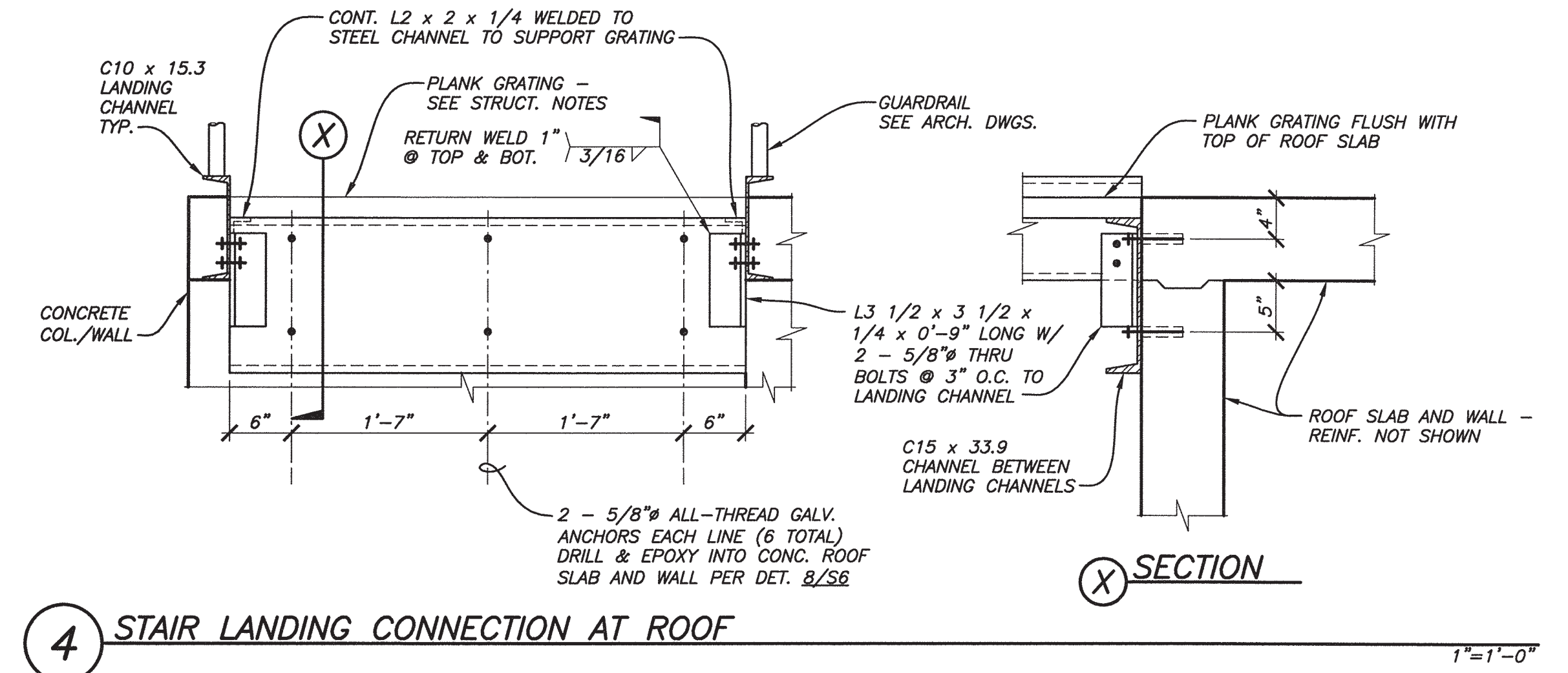
7 TYPICAL PRECAST CONC. LINTELS AT MASONRY WALL OPENINGS 1 1/2"=1'-0"



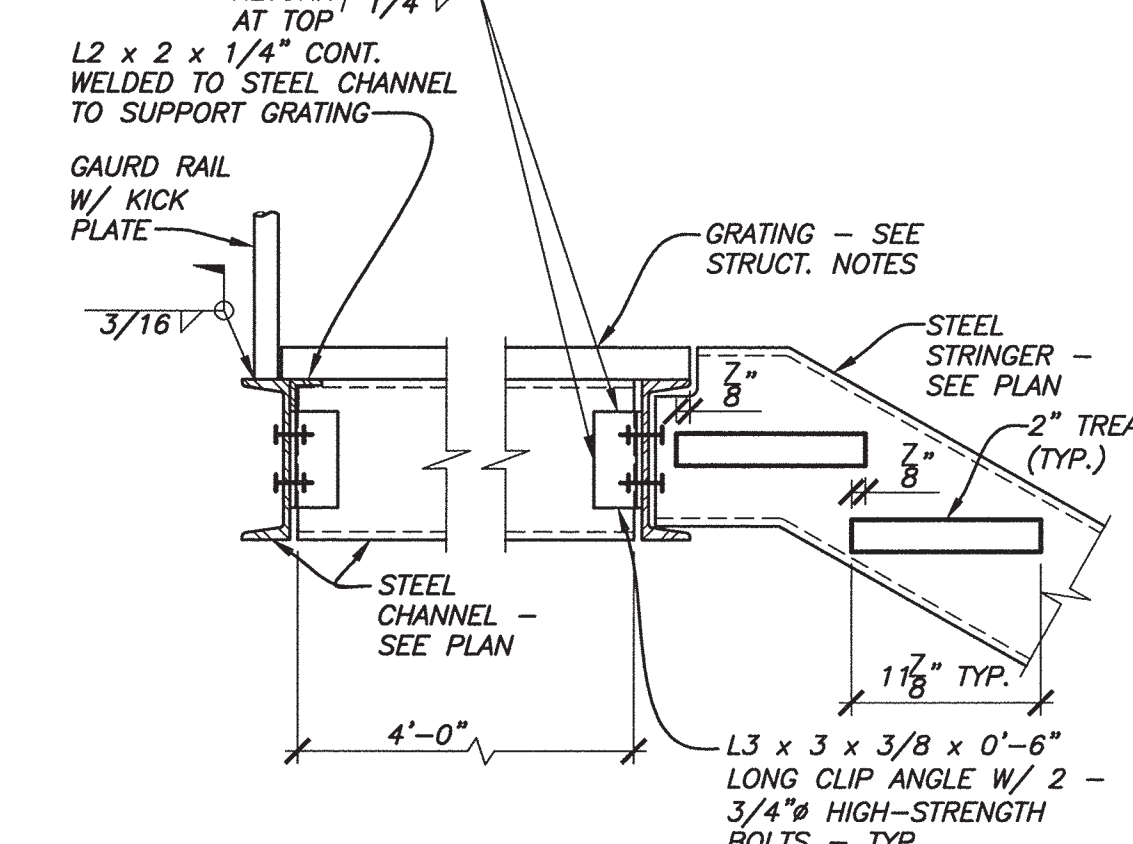
8 KNEE BRACES AT STAIRS (FRONT OF BALCONY SIM.) 1"=1'-0"



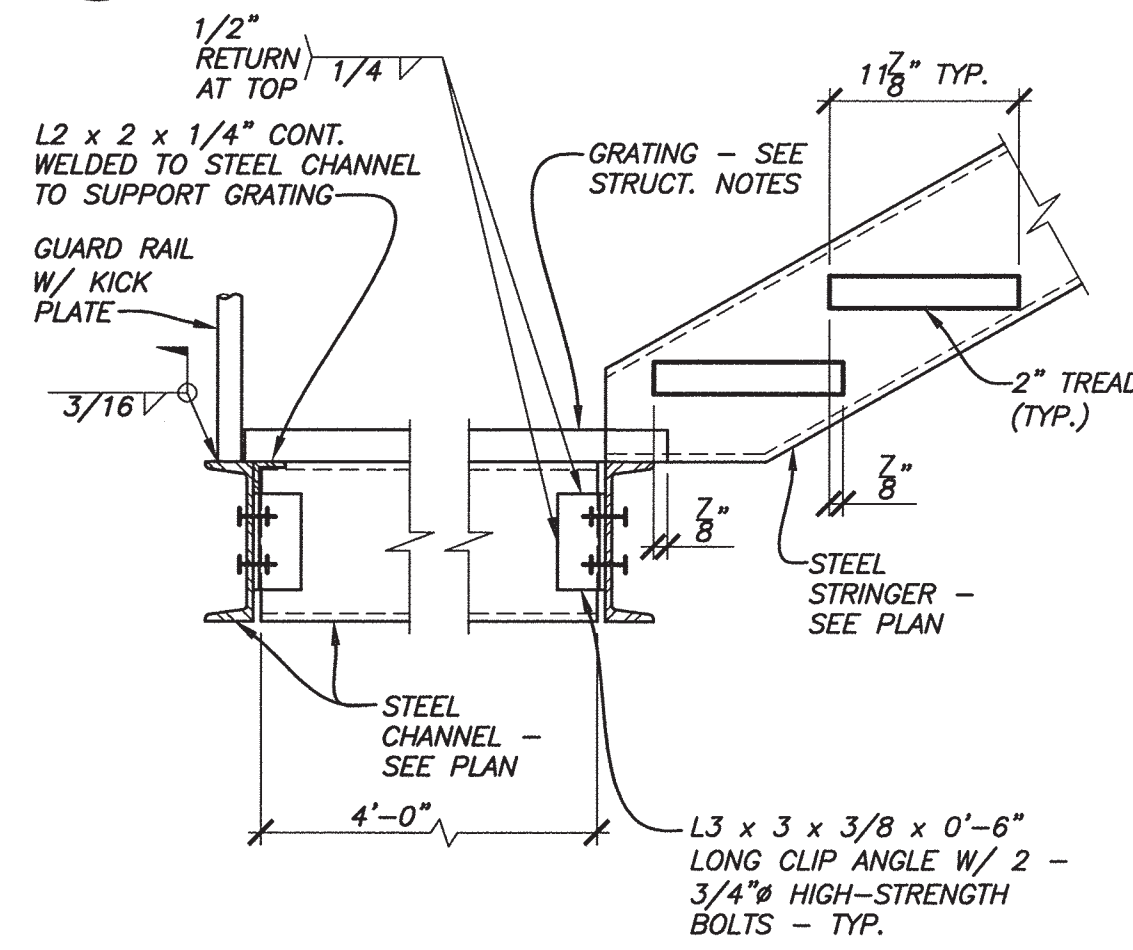
13 PLAN VIEW AT KNEE BRACING 1"=1'-0"



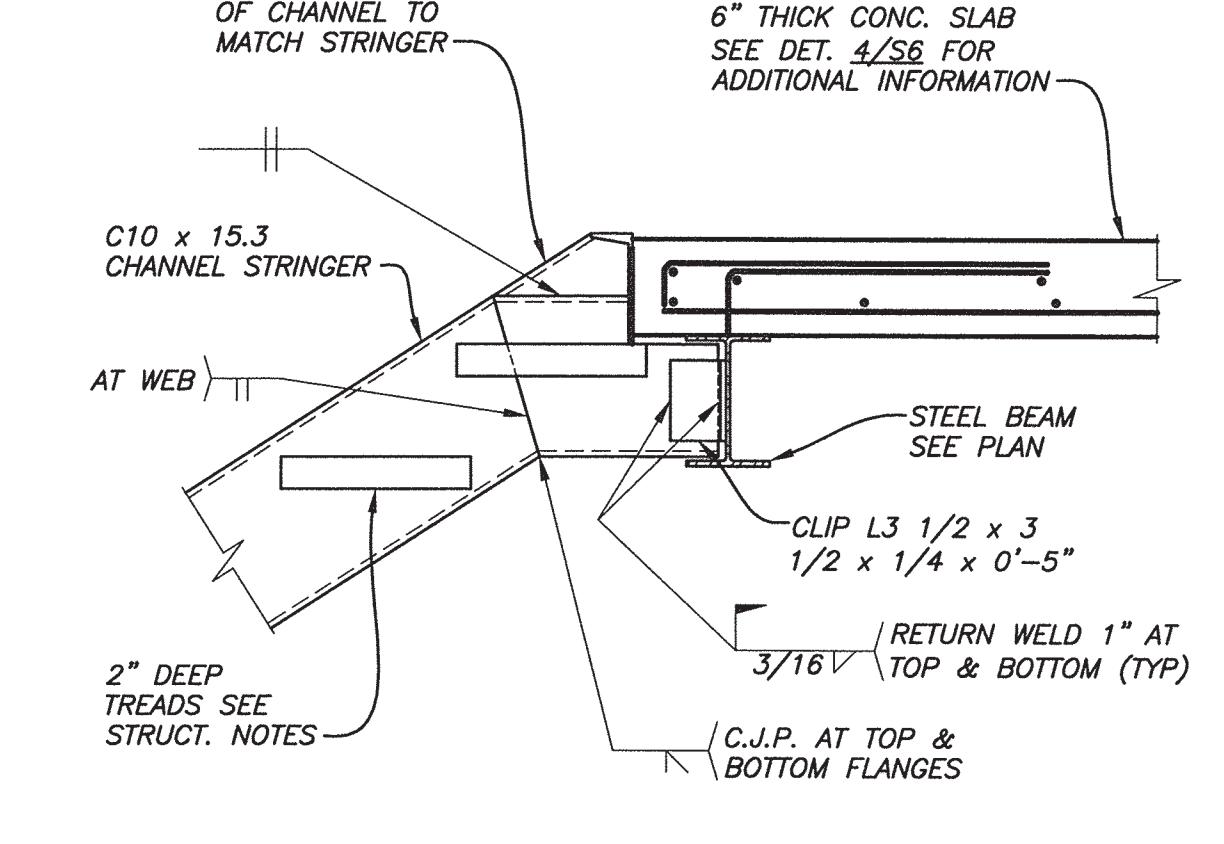
4 STAIR LANDING CONNECTION AT ROOF 1"=1'-0"



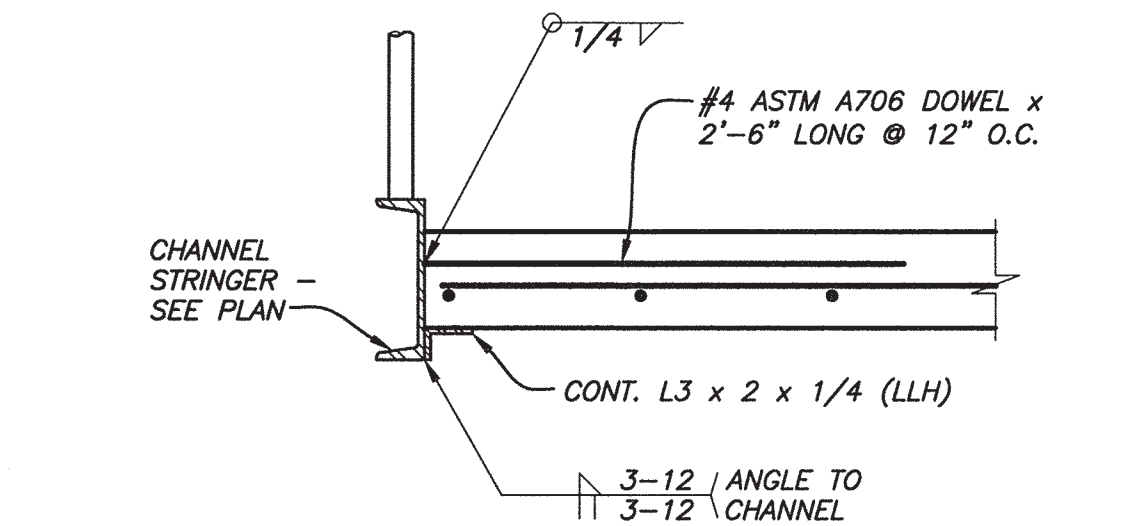
9 SECTION AT STAIRS 1"=1'-0"



14 SECTION AT STAIRS 1"=1'-0"



10 STEEL STAIRS AT BALCONY SLAB 1"=1'-0"



19 CHANNEL STRINGER AT 2ND FLOOR 1"=1'-0"

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STAIR DETAILS
DRAWING
S8

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APPROVED BY: REB

ACTIVITY: PROJ. NO.: CP0096

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